







# Biodiversity Finance Plan (BFP) for Malaysia

**Final Draft** 

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# What is **BIOFIN**?

In 2014, the Biodiversity Financing Initiative (BIOFIN) was launched during the COP 11 by EU Commission and the United Nations Development Programme (UNDP) in recognition of the challenges faced in financing biodiversity. The initiative aimed to develop a common methodology and the capacity of nations to conduct financial planning for biodiversity. In effect, nations would be able to better identify their financing needs to achieve their respective National Biodiversity Strategic Action Plans (NBSAP) as well as understand their current sources of financing, the financing gap that remains and the opportunities available to close the gap through reducing needs and increasing resources.

### Steps involved in the BIOFIN methodology

There are four main components to the BIOFIN methodology. First, the Policy and Institutional Review (PIR) is a review of all policy, legal and institutional frameworks and stakeholders that are relevant to biodiversity. This, together with the Biodiversity Expenditure Review (BER), an analysis of biodiversity expenditures through financial inputs such as budgets, allocations and expenditures related to biodiversity, will provide the basis for the Financial Needs Assessment (FNA). The difference between the BER and the FNA, an aspirational estimate of the resources needed to fund biodiversity-related activities, is the biodiversity finance gap. Finally, the Biodiversity Finance Plan (BFP) will lay out a mix of prioritised finance solutions that aims to address the biodiversity finance gap.



Source: UNDP (2016) The BIOFIN Workbook

### **BIOFIN Malaysia**

Malaysia was one of the first 12 countries to participate in BIOFIN and pilot the methodology from 2014-2018 with the Economic Planning Unit (EPU) of Malaysia as the national focal point, supported by UNDP Malaysia. In 2016, the National Policy on Biological Diversity (NPBD) 2016-2025 was launched as the NBSAP and the BIOFIN methodology was applied to with the final purpose of developing a resource mobilisation plan for the full implementation of the Policy.

The BIOFIN Malaysia BER, FNA and BFP exercise was conducted from March 2017 until August 2018. Three workshops, one for each phase, were conducted in May and December 2017, and June 2018. The PIR was not carried out as part of this study phase.

The BER collected a total of 32 samples consisting of 18 samples of government organisations, 1 government trust fund sample, 6 private sector case studies, 4 non-governmental organisations case studies and 3 portfolio samples for multilateral and bilateral organisations. The FNA collected a total of 31 samples consisting of 26 samples of government organisations, 1 private sector case study and 4 non-governmental organisation or civil society organisation case studies.

### Structure of the BFP

This is the Biodiversity Finance Plan for Malaysia and functions as the resource mobilisation strategy for the National Policy on Biological Diversity 2016-2025. This document comprises six chapters as follows:

Chapter 1: Introduction

This chapter provides the pretext for the biodiversity financing by first highlighting the relevance of biodiversity to Malaysia and a brief account of the existing biodiversity financing situation faced. It then presents the key highlights from BER and FNA findings to give some background to the solutions that are proposed in the next chapter.

Chapter 2: Biodiversity Finance Plan for Malaysia 2018-2025

This chapter introduces the BFP in terms of its implementation theme, vision, goals and targets. The prioritised finance solutions are also introduced in this chapter, mainly in terms of the relationship to NPBD Target 17 policy actions and the BFP's goals and targets.

Chapter 3: Assessing the mix of solutions

This chapter first describes how the solutions are related in the BFP.

**Chapter 4: Prioritised Finance Solutions** 

Chapter 5: Action Plan for the BFP

# 1 Background

### 1.1 Relevance of biodiversity to Malaysia

Malaysia is among the top 12 most mega diverse nations in the world and a signatory of the United Nations Convention on Biological Diversity (CBD). Its biodiversity has not only contributed to the nation's development but also has benefits for the global community. Our forest and marine ecosystems, and their abundance of species play a major role in regulating our natural environment and providing life-support ecosystem services, including combating climate change.

Our nation hosts 14.5 million hectares of forest reserves and maintains more than 50% of its land area under tree cover<sup>1</sup> which are valuable carbon stocks. There are at least 178,000 species of flora and fauna<sup>2</sup> recorded in our ecosystems and its 453,186 km<sup>2</sup> of coastal and marine ecosystems contribute to the nutritional needs worldwide. It is also estimated that 10% of tourist arrivals each year (~2.5 million arrivals), are attracted to nature-based tourism. In essence, biodiversity is the foundation for Malaysia's ecological, social and economic wellbeing in the long run.

This recognition for its importance is enshrined in the 11<sup>th</sup> Malaysia Plan (11MP) that states that in Malaysia's transition to a high-income nation, a key aspect of growth is ensuring that development is sustainable, and that our natural capital is appropriately conserved, sustainably used and its benefits shared equitably. In these times of increasingly unpredictable disasters exacerbated by climate change, it is crucial and economical to invest in biodiversity as a natural regulator of the environment, and also to ensure food security and other ecosystem services. Globally, there is a shift towards a green economy of which bioeconomy<sup>3</sup> and nature-based tourism are both growing industries. Biodiversity knowledge and services is therefore a significant contributor towards Malaysia's emerging green sector.

In 2016, Malaysia formulated the National Policy on Biological Diversity (NPBD) 2016-2025, building on its predecessor policy of 1998 to protect this valuable asset and achieve the CBD goals. The NPBD has 5 goals, 17 targets with 57 policy actions and functions as the National strategic Action Plan for Biodiversity (NBSAP) in Malaysia (Figure 1). Malaysia's biodiversity aspirations are also mentioned in the 11MP, especially in the Green Growth Strategic Thrust, and are consistent with other international commitments such as the CBD Aichi targets and Sustainable Development Goals (SDGs).

<sup>&</sup>lt;sup>1</sup> Ministry of Natural Resources and Environment (2014) Malaysia's 5th National Report to the Convention of Biological Diversity.

<sup>&</sup>lt;sup>2</sup> Ministry of Water, Land and Natural Resources (KATS) (2018) Biodiversity: Introduction. Available at: http://www.kats.gov.my/en-my/biodiversity/Pages/default.aspx, Accessed on: 18 August 2018.

<sup>&</sup>lt;sup>3</sup> Bioeconomy is the sustainable production of renewable biological resources and their conversion into food, feed, chemicals, energy, and healthcare and wellness products via innovative and efficient technologies. In addition to biotechnology, the bioeconomy encompasses all industries and economic sectors that produce, manage and utilise biological resources. This includes agriculture, forestry, fishery, food production, healthcare, chemicals and renewable energy. Definition available at:

http://www.bioeconomycorporation.my/bioeconomy-malaysia/investing-in-bioeconomy/investment-overview/, Accessed on 19 August 2018.



Source: Adapted from the National Policy on Biological Diversity (NPBD) 2016-2025 Figure 1: Malaysia's Biodiversity policy statement and goals

### 1.2 Biodiversity financing in Malaysia

Biodiversity financing in Malaysia has traditionally been associated with resource needs for protected areas, forestry, wildlife and conservation. This was very much in tune with the conventional environmentalism approaches that appealed for conservation action in appreciation for the environment. Viewed as a public good and mostly understood in terms of the natural resources provided, biodiversity conservation was largely funded by the public sector.

With mainstreaming of biodiversity into plans and policies, Malaysia increasingly recognised the role of biodiversity in economic terms and social wellbeing. The domain of biodiversity management today is more than conservation and protection. Rather, it encompasses sustainable use, threat reduction, access and sharing the benefits from biological resources, among others.

Yet, biodiversity financing is still largely tied to the traditional viewpoint of protection and conservation which limits its case in the face of competing development priorities. Public sector allocations are still the main source of funding and the use of innovative and sustainable funding mechanisms beyond government sources has not been fully explored and still underdeveloped. This situation has resulted in an underfunded and underinvested biodiversity sector which has serious implications for agencies tasked with the delivery of desired biodiversity outcomes.

Recognising this challenge, Malaysia specifically named sustainable financing for biodiversity as a target in NPBD. The target, Target 17, aims to significantly increase funds and resources mobilised for the conservation of biodiversity from both government and non-government sources through four accompanying policy actions. This includes:

- Action 17.1: Improve utilisation of the existing funding mechanisms
- Action 17.2: Scale up the National conservation Trust Fund for Natural Resources
- Action 17.3: Explore and implement new and innovative financing mechanisms
- Action 17.4: Diversify state governments' revenue streams

With the Policy in place, Malaysia then accelerated its work under the global Biodiversity Finance Initiative (BIOFIN) to understand the biodiversity financing landscape in Malaysia, assess financing needs and gaps as well as identify possible finance solutions for implementation. This was done by applying a systematic four-step methodology used by all BIOFIN participating countries.

The BIOFIN methodology consisted of a Policy and Institutional Review (PIR) that is used to identify key actors, policies and plans related to biodiversity financing; a Biodiversity Expenditure Review (BER) that aims to quantify the past expenditures on biodiversity, study existing funding sources and use it as a baseline for projecting secured biodiversity financing; a Financial Needs Assessment (FNA) which is a forward-planning exercise to quantify how much financial resources are needed to fully implement the NPBD; and lastly, a Biodiversity Finance Plan (BFP) that would pull together the findings from the first three steps and present the strategies for moving forward.

Malaysia conducted its BER and FNA successively between March 2017 and March 2018 with 31 sample organisations identified in the NPBD. The sample included federal government ministries and agencies, non-government organisations (NGOs) and private sector. Based sample findings alone, the biodiversity financing needs for NPBD implementation amounted to RM 2.38 billion annually, with a projected secured financing (based on past trends) of RM 1.4 billion and a gap of RM 0.95 billion a year. These figures are likely to be larger if all relevant organisations and at all-levels of government applied the BIOFIN methodology and plan towards fully achieving all the goals and targets stated in the NPBD. Addressing the annual gap RM 0.95 billion while sustaining the RM 1.4 billion secured financing a year as identified by these 31 organisations is only the start of overcoming the biodiversity finance challenge in Malaysia.

# **1.3** Key Highlights from BER and FNA

# **1.3.1** Source of funding for biodiversity

Government continues to be the major funder for biodiversity (67%) based on the BER national estimate. Of this, the federal government contributed the larger share of about 48%. While private sector contributions amounted to 30%, the amount was largely driven by environmental compliance to mitigate pollution (~23%) while actions that are more closely related to biodiversity were much smaller and still very CSR-based (7%). NGO spending contributed 2% to the estimated total while multilateral organisations (which would channel funds from overseas) were estimated to contribute about 1%.

This pattern shows a heavy reliance on government funding for biodiversity. This places it in direct competition with other development priorities and it is not surprising that only an estimated 1% of the government budget is spent on biodiversity each year. This suggests that there are still a number of values that have yet to be tapped into to finance biodiversity. Developing those values and financing mechanisms linked to those values would be a key focus of this BFP.

From the BER, there were few government trust funds that could receive funding from nongovernment sources. In the two that were considered in the BER (for conservative estimation purposes), only the Marine Parks Conservation Trust Fund would draw in financing from non-government sources, namely the Park Entrance Fees collected from visitors of marine parks. The National Conservation Trust Fund, based on its current set up is only able to receive from government allocations and not from other sources. There are another two funds that may possibly need to be explored in future BERs including the trust fund under PERHILITAN for managing human-wildlife conflict and the trust fund under DOE that is aimed at environmental education and awareness raising. These had not been included in the BER as the study team became aware of them only after the data collection period was over.

As for the private sector, the sources of funding could come in the form of company expenditures to fulfil compliance requirements, Corporate Social Responsibility (CSR) programmes and/or private trust funds. Company expenditures towards biodiversity could possibly be tapped into with the current trend to make company operations more 'green' or 'sustainable'. Such investments would however need to affect their business operations and profitability to be fully considered. As for CSR programmes, secondary searches and discussions with BIOFIN participants suggest that CSR is more ad-hoc and philanthropic in nature. Coordination is non-existent and the funding is not as stable. In comparison, private trust funds are likely to be more structured and have stringent governance procedures as they are accountable to a board of trustees and accounts are audited, separate from the parent company. Based on discussions with participants, there appears to be little communication between trusts funds about the projects they finance.

For NGOs, funds were largely raised from grants and donations from local and international organisations. They include research grants, programme grants, trust funds and CSR programmes, among others. There were a few NGOs that were able to supplement their funds with membership fees, donations from civil society and project funding from their international offices. In comparison to the public sector and private sector, the amounts spent by NGOs are much smaller and more dependent on the contributions from others rather than being self-generated.

Due to the sample approach of the BER, the patterns above only draw out the broader observations. For improvement, there is a need to involve much more organisations, including state government actors, other multilateral organisations and private sector, financial sector actors and NGOs.

# 1.3.2 Patterns in biodiversity expenditures

Based on the samples collected for the BER, there appeared to be some degree of concentration in biodiversity expenditures although all NPBD targets had received funding. Some NPBD targets and biodiversity functions tended to attract more financing than others and it was apparent that there were certain aspects of biodiversity management that were very new and had yet to gain sufficient attention. For example, in terms of focus areas in line with the NPBD, 76% of the biodiversity expenditures were concentrated on seven targets. This included (in terms of importance):

- Target 7 on vulnerable ecosystems and habitats restored and protected (28%)
- **Target 4** on sustainable management and harvesting of production forests, agriculture, production and fisheries (14%)
- **Target 3** on mainstreaming biodiversity conservation into national development planning and sectoral policies and plans (11%)
- **Target 16** on knowledge and the science base relating to biodiversity improved and applied (6%)
- **Target 13** on conserving genetic diversity of cultivated plants, domesticated animals and wild relatives (6%)
- **Target 9** on preventing the extinction of known threatened species and improving and sustaining their conservation status (5%)
- **Target 15** on the capacity for the implementation of the national and sub national-level biodiversity strategies, the CBD and other related MEAs significantly increased (4%)

In contrast, there were certain targets that were only covered by one type of stakeholder and attracted very little financing. This included:

- Targets 11 and 12 on invasive alien species and biosafety by only the public sector
- **Target 14** on operationalizing an access-and benefit sharing (ABS) framework by only the multilateral organisations

Additionally, funding priorities tended to differ between stakeholders. For example, ABS expenditures by the private sector were focussed on bio-prospecting while for multilateral organisations, it was spent on operationalizing the Nagoya protocol. Another example is that of conservation areas, where most finances from the public sector, NGOs and multilateral organisations were spent on improving protected areas management whereas the private sector spent on improving landscape management.

Such patterns demonstrate that different stakeholders focussed on different aspects of biodiversity management. At present, such patterns exist with limited information, coordination and knowledge of the priority areas in biodiversity management that need financing. However, with better information and direction, financing can be better allocated to reflect the needs patterns to deliver biodiversity outcomes.

# **1.3.3** Patterns in financing needs

From the samples of the FNA who also had BER data, it was estimated that their needs amounted to RM 2.38 billion annually for the period of 2018 to 2025. This translates to a total of RM 19.0 billion for the whole period. Like the BER, there were concentration patterns in the financing needs although all NPBD targets were budgeted and planned for by the samples. For example, three targets with the highest needs already accounted for close to 60% (RM 11 billion) of all financing needs in the period of 2018-2025. This included:

- Target 7 on vulnerable ecosystems and habitats restored and protected RM 4.7 billion
- Target 6 on protected areas RM 4 billion
- **Target 10** on controlling and significantly reducing poaching and illegal harvesting of biodiversity RM 3 billion

In terms of biodiversity functions, the biggest needs were in:

- **Sustainable use** (RM 4.3 billion) took up the largest portion of financial needs watershed management and sustainable agriculture;
- Ecosystem management and restoration (RM 4.0 billion) largely in reducing and stopping the loss of valuable habitats;
- **Biodiversity planning, finance and management** (RM 3.7 billion) environmental law enforcement; and
- **Biodiversity knowledge** increasing managerial and technical capacities as well as to improve, share and apply knowledge.

In contrast, the financing needs of five targets jointly accounted for 0.5% of the total financing needs as follows:

- Target 12 on biosafety RM 6.4 million (0.03%). Two out of three policy actions not identified in the FNA - 12.2 (Assess LMO impacts) and 12.3 (biosafety emergencies responses)
- Target 11 on invasive alien species RM 12.4 million (0.07%)
- Target 2 on stakeholder engagement, also had a small need recorded
- **Target 14** on ABS also recorded a small need of RM 17.6 million (0.1%) with Policy Action 14.1 (ABS legislation) and Policy Action 14.3 (Protect traditional knowledge)
- **Target 17**'s Policy Actions 17.1, 17.2, and 17.3 were not identified in the FNA. This suggests that planning for resource mobilisation is in much need of attention.

# 1.3.4 Patterns in gaps

Using only samples that had BER and FNA data (31 samples), it was projected that only RM 1.4 billion a year or RM 11.4 billion for 8 years 2018-2025) could be secured from the samples' existing funding sources. This translated to a gap of RM 0.95 billion a year and RM 7.6 billion for 8 years (2018-2025). In terms of gaps, the targets which had the largest financing gaps were similar to those identified with biggest needs. This included Target 6 on protected areas and area-specific conservation measures at RM 3 billion, followed by Targets 7 and 10 which were on protecting and restoring vulnerable ecosystems as well as on reducing illegal poaching, harvesting and trading of biodiversity with gaps of about RM 2 billion respectively.

Upon further examination, the financing needs for Target 6 were extremely large mainly due to costable actions from JPS (86% of Target 6 needs) to protect and maintain urban biodiversity (Policy action 6.5), mainly in terms of ensuring better water quality and reducing flooding in urban areas. Similarly, Target 7 had high financing needs due to projects from JPS to address coastal and river bank erosion as well as estuary restoration and flood control (85% of Target 7 needs). Recognising that these large amounts may mask needs of other targets, the gaps were re-examined with the removal of JPS figures. With that removal, Targets 6 and 7 still have large financing needs of around RM 600-700 million but are no longer in the top three with largest gaps.

Instead, Target 10, which is on reducing poaching, illegal harvesting and trading of biodiversity, tops the list with a need of RM 3 billion and a gap of RM 2.9 billion, largely due to enforcement needs (policy action 10.1). This is followed by Target 9, which is on threatened species conservation where there is a need of RM 1.5 billion and a gap of RM 1.0 billion. Target 15 on strengthening implementation capacity also emerges as having a large gap of RM 619 million, although this target needs were estimated at RM 989 million.

# **1.3.5** Patterns in relations

Another important observation from the BER and FNA processes was the common themes that different agencies worked on and how they were related. These observations were made by the study team who examined every expenditure item in the BERs and the costable actions in the FNAs in addition to discussions with participants during various training sessions. Apart from being connected under the same NPBD targets, the study team found that participants could come together under common themes.

For example, there were a number of organisations that mentioned forensics in their planned costable actions, mainly linked to enforcement needs. DOE for example mentioned the need to have DNA fingerprinting for chemicals to improve on the effectiveness of enforcement. FRIM and JPSM on the other hand used DNA fingerprinting to identify logs and technologies that could quickly scan the surface of the log to know whether an illegal instrument had been used to harvest it. For agriculture and other commodities, forensics was useful in checking the supply chain for compliance with sustainable practices. While the applications may be different, it was apparent that they were looking at a certain family of technologies and systems to solve their forensic needs and reduce monitoring or enforcement cost. Blockchain technology and big data could for example be applied to various situations. Coming together to lobby for joint research grants or to identify these technology needs to guide the research community and funders would benefit this whole group of organisations. Yet, prior to BIOFIN, they may not have seen these possibilities.

For the purpose of discussion, the study team had identified five other thematic areas that could bring participating organisations together. This included Urban Biodiversity, Mangrove and Coastal Management, climate change and carbon sinks, Sustainable Land Use, and Invasive alien species. There are likely to be many more examples that can emerge if participants are able to search for relevant topic areas (Box 1). In the final BIOFIN Phase 1 project workshop in June 2018, participants therefore suggested that the FNA consolidate sheet be made shareable, with some adjustments to remove sensitive data, to allow them to see the bigger picture and identify other joint financing or cost sharing possibilities.

### Box 1: Examples of common topics that can link organisations together

### **Geological biodiversity in Geo Parks**

The Department of Minerals and Geoscience (JMG) is currently collecting and assessing geological information across Malaysia in preparation to gazette five Geo Parks by 2020 for the conservation of geological heritage. Simultaneously, the Forest Research Institute of Malaysia (FRIM) is developing a database of biodiversity in limestone areas to serve as a guideline for conservation management and rehabilitation. Malaysia Nature Society (MNS) can also contribute as they presently conduct educational tours in Batu Caves on cave biodiversity. These organisations can work together to enrich biodiversity knowledge-based tourism in Geo Parks.

#### **Invasive Alien Species and Biosafety**

As there are only nine Department of Biosafety (JBK) enforcers across Malaysia, enforcement for biosafety and invasive alien species are often done simultaneously with the Department of Fisheries (DOF), Department of Agriculture (DOA), Department of Veterinary Science (DVS) and the Royal Malaysian Customs (RMC). The FNA highlighted that Malaysia Maritime Enforcement Agency (APMM) is a crucial addition to this network as they are the primary marine border enforcers, and often inspect boats smuggling illegal flora or fauna, but release the catch without tests. This collaboration could ensure that potential IAS, LMOs or GMOs are sent to relevant agencies to be tested for adverse effects on biodiversity and humans before being released.

#### Human-wildlife conflict (HWC)

At present, HWC is under the purview of the Department of Wildlife and National Parks (PERHILITAN), with help from NGOs such as Management and Ecology of Malaysian Elephants (MEME) and CBOs. The FNA shows that the Rubber Research Institute of Malaysia (LGM), Malaysia Cocoa Board (LKM), Malaysia Palm Oil Board (MPOB) and Sime Darby Plantations, already seek PERHILITAN's technical expertise to address HWC in their plantations. The focus seems to also be gradually shifting to building local communities and landowners' capacity to conduct their own mitigation measures. This would avoid future costs and free up PERHILITAN's limited resources.

#### **Urban Biodiversity**

In PLANMalaysia and the National Landscape Department's planning and landscaping guidelines, 30% of urban areas are designated as green spaces. Sime Darby Property, the only private sector FNA participant, highlighted their mission to plant 20,000 local endangered, rare and threatened tree species in their developments, as a continuation of their current efforts in both their properties and plantations. To accomplish this, they worked with the Association of Landscape Architects to produce a Malaysian Threatened and Rare Tree: Identification and Landscape Guidelines which is downloadable online for free. SD Properties emphasised that private developers "green" their developments, but often with alien species. If there were incentives for planting of local threatened species, developers could contribute towards that objective in their urban projects. The Ministry of Agriculture also manages the Shah Alam Botanical Gardens, more than 80% of which is permanent forest reserve, and the Forest Research Institute of Malaysia, manages their own forest reserve, and conducts research on plant species in Malaysia. The Malaysian Nature Society also support community forests and community gardens run by NGOs, CBOs and residential associations. Additional stakeholders include local councils who manage public urban spaces, and also enforce guidelines, as land is under the purview of the state. If such efforts are coordinated and managed, the quantity and especially quality of urban biodiversity could be significantly increased, and urban areas could become biobanks for local, endangered, rare and threatened plant species.

# **1.3.6** Take away points

Although the BER and FNA were based on samples, their process and findings do provide some suggestions on where to begin addressing the biodiversity finance challenge. Some points to note are:

- Enforcement (related to biodiversity) have very large needs and gaps;
- Strengthening implementation capacity for biodiversity management has a large gap;
- Habitat related biodiversity expenditures have large needs and gaps both in terms of protected areas (traditional conservation outlook) as well as landscapes which include watershed management, coastal and marine, agriculture landscapes (landscape management outlook);
- Urban biodiversity is very low on the radar of most agencies, with the exception of flooding-related concerns;
- Biosafety, Invasive alien species are also very low on the radar;
- Legal (court cases, sentencing) issues with the Attorney General Chambers and the judiciary was completely off the radar while tourism is attracting attention of biodiversity managers but the tourism sector not yet fully engaged;
- Public sector and multilateral organisations are more likely to be concerned with financing requirements that are newer to biodiversity management (e.g. biosafety, IAS, ABS);
- NGO and private sector spend more in traditional conservation aspects;
- There is a lot more potential for tapping into the private sector funding beyond CSR compliance seems to be a key driver but market drivers not fully explored;
- There is a lot of potential for streamlining and forging synergies between agencies and organisations although each bring their own priorities into the discussion; and
- Participants could associate themselves in more biodiversity roles than the NPBD had envisaged for them.

### 2 Biodiversity Finance Plan for Malaysia (2018-2025)

This Biodiversity Finance Plan (BFP) is the resource mobilisation plan for the NPBD which will span from 2018 until 2025. The Plan is a collection of nine finance solutions that seek to realign expenditure, deliver better, avoid future costs and generate new revenue.

The solutions in this BFP were identified through mining the information collected from the BER and FNA (e.g. needs, gaps, and common themes), the NPBD targets as well as secondary information on the respective finance solutions. Using the BIOFIN BFP methodology, potential solutions were identified and assessed for its suitability. Proposed solutions were then presented to relevant stakeholders for feedback. This process was undertaken from April to August 2018. The methodology is described further in Appendix I of this Report.

In line with the NPBD, the BFP should be reviewed in 2020 and mid-2023 to suit the changing needs of Policy implementation, especially if updated biodiversity financing needs and gap estimates are available. In 2025, a final review of the BFP in terms of its effectiveness and performance would be useful for crafting the next biodiversity policy's resource mobilisation plan.

### 2.1 BFP implementation: Roles and responsibilities

The overall resource mobilisation effort will be undertaken by the Ministry of Water, Land and Natural Resources (KATS)<sup>4</sup> with continued assistance from the Economic Planning Unit (EPU), Ministry of Finance (MOF) and the United Nations Development Programme Malaysia Country Office (UNDP Malaysia). Responsibilities would include:

- implementing the NPBD and BFP communications strategy and lobby for support;
- providing leadership and function as the focal point for information and discussions relating to finance solutions;
- monitoring the progress of the BFP implementation concurrent to the NPBD review; and
- routinely looking for opportunities to secure further resources.

For EPU and MOF, their roles are to ensure that biodiversity financing is institutionalised into the budgetary and accounting processes and to continue supporting the capacity building for ministries and agencies to apply the BIOFIN methodology. These roles are important factors for the Plan to gain traction, support and impetus. Support and commitment from the main councils related to biodiversity and natural resources will give further weight to the BFP.

Indeed, the 31 organisations involved in BIOFIN Phase 1 project are important allies of the BFP. There are some solutions in the BFP that will be lobbied for and developed by these organisations while other solutions will rely on their acceptance and uptake during pilot testing and eventual implementation. Technical advice and expertise may also be required from these participants to smoothen the implementation of the solutions. Importantly, these organisations have a role to play in communicating the BFP in addition to the BIOFIN methodology and the NPBD in relation to their respective organisations. This will help mainstream biodiversity financing in general.

<sup>&</sup>lt;sup>4</sup> Formerly known as the Ministry of Natural Resources and Environment (NRE)

### 2.2 Vision of the BFP

To make biodiversity financing is a national priority and fully address Malaysia's biodiversity financing needs in a timely and appropriate manner by 2025.

### Description

The vision states the desired impact of this BFP and is grounded on the need for securing sufficient resources for effective implementation of the National Policy on Biological Diversity 2016-2025 and other biodiversity management functions in Malaysia. Highlighting biodiversity as a national priority, the vision aims to inspire collective effort to significantly mobilise funds and resources at all levels including government and non-government sources through different financing mechanisms.

The aspects of timeliness and appropriateness are also highlighted in the vision statement as a reminder that purely increasing financing resources alone is insufficient. Rather, other considerations that could affect timeliness (e.g. data deficiencies and excessive bureaucratic procedures) and appropriateness (e.g. mismatched solutions and needs, wrong locations for solution implementation) are just as important to ensure sustainable and effective biodiversity financing.

# 2.3 BFP Goals and Targets

The BFP has four goals that are supported by six targets to be achieved by 2025. The goals cover the aspects of sufficiency, diversity, allocation, utilisation and governance of biodiversity financing – factors that are important to ensure financial sustainability.

### Goal 1: Financial resources for biodiversity management is increased significantly

This goal seeks to increase the amount of funding that is channelled towards or spent on biodiversity, either directly (e.g. via threatened species programmes) or indirectly (e.g. via better planning designs that reduce habitat destruction). In a broad context, financing biodiversity management would include funding efforts to protect and conserve biodiversity as well as sustainably use and share the benefits from biological resources.

### Goal 2: Funding portfolio for biodiversity is diversified in funding sources and mechanisms

This goal aims to diversify the mix of funding sources and mechanisms beyond the present reliance on public budget allocations. Diversifying the funding portfolio and financing mechanisms is important to ensure that stable amounts of funds and resources continue to be available for biodiversity management in the long run. This includes exploring private sector and civil society financing and other financing mechanisms beyond fiscal solutions.

# Goal 3: Financial resources are allocated and utilised effectively and efficiently for improved biodiversity management

This goal aims to improve the front-end allocation processes and the back-end utilisation of financial resources through strengthening the capabilities in biodiversity financial planning and programme design. Efficient and effective allocation of financial resources is important to ensure that the resources are available on a timely basis and are directed to appropriate efforts. On the other hand, improved biodiversity management will deliver the desired impacts.

# Goal 4: Good governance is practised in biodiversity financing

This goal aims improve the trustworthiness of biodiversity financing among biodiversity financing actors through establishing good governance practices in the planning, allocation, utilisation and reporting. Good governance is important to secure long-term and continued funding and commitment from these actors as it helps to build trust, confidence and good reputation for the biodiversity sector.

In relation to the four BFP goals, the six targets are:

- **Target 1:** Increase the amount of direct biodiversity allocations from public sector by 10% by 2025, based on 2016 levels
- **Target 2:** Increase the approval rate of biodiversity-related allocations to development sectors and to support mainstreaming of biodiversity into those sectors
- **Target 3:** Increase the amount of funds directed to biodiversity from private sector trust funds and CSR programmes by 10% by 2025, based on 2016 levels
- **Target 4:** Biodiversity sector represents 5% of resource-based industries' GDP share and 10% of resource-based services' GDP share by 2025
- Target 5: Two innovative financing mechanisms are in operation by 2022
- **Target 6:** BIOFIN methodology is institutionalised into budgetary, allocation and reporting processes at federal and state level by 2022

# 2.4 Overview of prioritised finance solutions

This BFP proposes nine innovative solutions to address biodiversity financing needs and achieve the goals as stated in the NPBD, as follows:

- Scale up Malaysia Biodiversity Enforcement Operations Network (MBEON)
- Innovation challenge funds for biodiversity
- Coordinating biodiversity spending between NCTF and other trust funds
- Voluntary Finance standards for finance sector
- Incorporate biodiversity criteria to GGP
- Tax incentives for landscaping using local threatened species
- Direct part of ABS funds to biodiversity conservation
- Ecological Fiscal Transfers
- Build a business market for biodiversity

Additionally, 'Institutionalising BIOFIN methodology' is proposed as an overarching solution to support the implementation of these finance mechanisms.

The prioritised solutions are meant to address key challenges facing biodiversity management today while also taking advantage of emerging trends and opportunities to better finance biodiversity. In relation to the NPBD Target 17, these proposed solutions contribute directly to the achievement of Actions 17.1 and 17.3 while also contributing indirectly to Actions 17.2 and 17.4 as shown in Table 1. Their relationship to the BFP goals and targets is summarised in Table 2.

	NPBD Target 17 policy actions	Finance solutions
Directly contribute to NPBD policy	Action 17.1: Improve utilisation of the existing funding mechanisms	<ul> <li>Institutionalising BIOFIN methodology</li> <li>Scaling up of MBEON</li> <li>Coordinate biodiversity spending between NCTF and other trust funds</li> </ul>
actions	Action 17.3: Explore and implement new and innovative financing mechanisms	<ul> <li>Innovation challenge funds for biodiversity</li> <li>Voluntary Finance standards for finance sector</li> <li>Incorporate biodiversity criteria to GGP</li> <li>Tax incentives for landscaping using local threatened species</li> <li>Direct part of ABS funds to biodiversity conservation</li> <li>Ecological Fiscal Transfers</li> <li>Build a business market for biodiversity</li> </ul>
Indirectly contribute to NPBD	Action 17.2: Scale up the National conservation Trust Fund for Natural Resources	• Institutionalising BIOFIN methodology *In terms of identifying priority areas for funding for the NCTF's 5-year strategic plan
policy actions	Action 17.4: Diversify state governments' revenue streams	<ul> <li>Ecological Fiscal Transfers</li> <li>Build a business market for biodiversity</li> </ul>

BFP Goal	BFP Target	Finance solutions
<b>Goal 1:</b> Financial resources for biodiversity management have	<b>Target 1:</b> Increase the amount of direct biodiversity allocations from public sector by 10% by 2025, based on 2016 levels	<ul> <li>Scale up Malaysia Biodiversity Enforcement Operations Network (MBEON)</li> <li>Ecological Fiscal Transfers</li> </ul>
increased significantly	<b>Target 2:</b> Increase the approval rate of biodiversity-related allocations to other development sectors of the government to support mainstreaming of biodiversity into other sectors	• Institutionalising BIOFIN methodology *Helps to identify which sectors are contributing to biodiversity outcomes and their financing needs
	<b>Target 3</b> : Increase the amount of funds directed to biodiversity from private sector trust funds and CSR programmes by 10% by 2025, based on 2016 levels	<ul> <li>Coordinate biodiversity spending between NCTF and other trust funds</li> </ul>
<b>Goal 2:</b> Funding portfolio for biodiversity is diversified in funding sources and mechanisms	<b>Target 4:</b> Biodiversity sector represents 5% of resource-based industries' GDP share and 10% of resource-based services' GDP share by 2025	<ul> <li>Incorporate biodiversity criteria into GGP</li> <li>Innovation challenge funds for biodiversity</li> <li>Tax incentives for landscaping using local threatened species</li> <li>Build a business market for biodiversity</li> </ul>
	<b>Target 5:</b> Two innovative financing mechanisms are in operation by 2022	<ul> <li>Voluntary Finance standards for finance sector</li> <li>Direct part of ABS funds to biodiversity conservation</li> <li>Ecological Fiscal Transfers</li> </ul>
Goal 3: Financial resources are allocated and utilised effectively and efficiently for improved biodiversity management	<b>Target 6:</b> BIOFIN methodology is fully institutionalised into budgetary, allocation and reporting processes at federal and state level by 2022	<ul> <li>Institutionalising BIOFIN methodology</li> <li>Coordinate biodiversity spending between NCTF and other trust funds</li> <li>Voluntary Finance standards for finance sector</li> </ul>
Goal 4: Good governance is practised in biodiversity financing		

Table 2: Prioritised BFP solutions in relation to the BFP	goals and targets
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### 3 The Mix of Prioritised Finance Solution

A resilient and sustainable financing portfolio requires a mix of solutions. As described in the BIOFIN 2016 Global Workbook, a good BFP should have a mix of solutions that are collectively adequate to meet the biodiversity financing needs; sufficiently diverse in source and mechanism to be more resilient to shocks; have appropriate sequencing to cater for different start-up times, priorities and impact durations; and can be framed to the wider context of sustainable development (Figure 2). These considerations were taken into account when deciding on the final mix of solutions to include in this BFP.

Financially adequate	Diversity of solutions	Appropriate sequencing	Contribution to sustainable development			
<ul> <li>Sufficient to meet needs/ reduce gap</li> </ul>	• Spreads the risk to across solutions to be more resilient to shocks	<ul> <li>Start-up time of solutions, biodiversity priorities, and time constraints         <ul> <li>mix of short and long-term solutions</li> </ul> </li> </ul>	<ul> <li>Can be framed to the wider understanding of sustainable development and promotes social and economic development</li> </ul>			

Figure 2: Considerations for the mix of solutions in the BFP financing portfolio

In particular, the study team considered whether the solutions would:

- Address pressing biodiversity financing needs and gaps
- Take advantage of existing interest or trends
- Generate/ unlock enough finances to justify the effort needed
- Deal with the financing gap by reducing needs through realigning expenditures, delivering better and avoiding future costs or by increasing resources through generating revenues or realigning expenditures
- Tap into different sources of funds through different mechanisms
- Require new efforts to establish or ride on existing mechanisms
- Take a long time to establish or not
- Have a long-lasting impact or not

As summarised in Table 3, each solution brings its own character to the BFP to collectively address the biodiversity financing needs and gap.

# Table 3: Summary of nine BFP solutions characteristics

BFP Solution	Scale up MBEON	Innovation challenge funds	Coordinating trust funds spending	Voluntary Finance standards	Biodiversity criteria in GGP	Tax incentives for landscaping bio-d	Direct part of ABS funds to biodiversity	Ecological Fiscal Transfers	Business market for biodiversity
Type of result	•7		• +	P 0,		. —			
Deliver better	х		х		х	х		х	
Avoid future cost			х	х	х			х	х
Realign expenditures	х	х	х	х	х	х		х	
Generate new revenues		х		х			х		х
Source of funds									
Public sector	х	х	х		х			х	х
Private sector		х	х	х	х	х	х		х
Civil society		х							х
Mechanism/ Instrument									
Debt and equity		х							
Fiscal						х		х	
Grant		х	х				х		
Market		х		х	х		х		х
Risk management				х					
Regulatory									
Stability of funds									
Steady stream of funds				х	х		х	х	х
Short-term injections	х	х	х			х			
Impact term on finances									
Long	х	х	х	х			х	х	х
Short					х	х			
Start-up time									
Fast	х	x	х	х		х			
Medium		х	х	х	х		х		
Slow							х	х	х
Novelty of solution									
Uses existing mechanisms	х	х	х	х	х		х		
New effort needed						х		х	х
Expected size of funds and									
resources generated									
Small						х	х		
Medium	х	х	х	х				х	
Large					х				х

# 3.1 Type of result

Finance solutions are often synonymous with the concept of generating new revenue. While that solution is a key one, it may also sometimes be one of the most challenging ones as it involves sourcing new funds. Thus, this biodiversity finance plan aims to also emphasise three other types of finance solutions – realigning expenditure, avoiding future expenditure and also delivering better. All three fall under the category of reducing needs but delivering better also encompasses increasing resources. A balance of all four is needed in order to ensure the sustainability of the finance plan itself. While waiting for solutions that take longer, as they are more focused on enabling the generation of new funds, short term, low hanging fruit such as the realignment of expenditure and delivering better should be emphasised.

# 3.1.1 Reducing Needs

### 3.1.1.1 Realign expenditure

The most common type of finance solution highlighted in this BFP is actually realigning expenditure, with seven out of nine solutions contributing towards it. Existing expenditure that is parked in non-biodiversity related or even negative-biodiversity expenditure can be redirected to positive biodiversity expenditure.

### 3.1.1.2 Avoid future expenditure

Four solutions are meant to be positioned to prevent or avoid future investment needs by reducing or amending counter-productive policies, expenditures and behaviours. These four solutions are primarily coordinating of the NCTF and other trust funds to avoid overlapping costs, the introduction of voluntary finance standards among the finance sector to avoid harmful activities among the borrowers, the incorporation of biodiversity criteria in government procurement as it is one of the largest segments of Malaysia's GDP and has influence over entire supply chains. Finally, the redirection of environmental fines to mainstream biodiversity among the legal and judicial officers will serve to avoid future enforcement costs if the prosecution of environmental crime offenders is at its optimum.

### 3.1.1.3 Deliver better

The five solutions that aim to deliver better include scaling up MBEON, coordinating the NCTF and other trust funds, tax incentives for landscaping using local threatened species, redirecting environmental fines to mainstream biodiversity among judicial and legal officers and building a market for biodiversity all contribute towards increasing cost-effectiveness or efficiency in the short and long term.

### 3.1.2 Increasing Resources

### 3.1.2.1 Generate revenue

While there are four solutions that are geared towards generating new revenue from or for biodiversity, that is not their sole financial function. These four solutions also contribute towards realigning expenditure and delivering better. Innovation challenge funds for biodiversity will stimulate new funding for research and development in biodiversity innovation. Voluntary Finance standards for finance sector will also generate new revenue

for a more sustainable market, which in turn helps to build a biodiversity market. ABS funds that are royalties collected from commercial institutions or individuals that utilise traditional knowledge and make a profit will also generate new revenue for conservation of biodiversity, sustainable use and awareness raising.

### 3.1.2.2 Deliver better

The five solutions that aim to deliver better all contribute towards increasing costeffectiveness or efficiency in the short and long term. This will not only reduce needs due to efficiency but will also enable the funds that are saved to go towards other biodiversityrelated priorities.

### 3.2 Novelty of solution

Scaling up of MBEON, creating an innovation challenge fund for biodiversity, coordinating the NCTF and other trust funds and incorporating biodiversity criteria to the GGP are all based on scaling up or incorporating new criteria into existing government mechanisms. Thus, they are seen as relatively easier to achieve. The second type are new initiatives currently being pursued such as voluntary finance standards which are currently being pushed by Bank Negara Malaysia in their Islamic Finance sector and directing part of the ABS funds to biodiversity.

The final category consists of new ideas such as tax incentives for landscaping using local threatened species, redirecting environmental fines to mainstream biodiversity in the judicial and legal officers. The last solution, building a business market for biodiversity, is meant to be a culmination of the other solutions. Through the other 8, the market for biodiversity, standards and guidelines, monitoring and evaluation, planning and managing can come together to build a business market for biodiversity beyond just its raw products or ecosystem services, to products, services inspired and influenced by biodiversity and its knowledge.

### 4 Bringing the solutions together

Breaking the strong reliance on public sector funding for biodiversity is important to meet the financing needs. Although this source of funds is steadier and more consistent, public sector funding is less likely to grow significantly for biodiversity in lieu of current government concerns and the other development priorities. Attracting financing from other sources is therefore central to the BFP.

Private sector is a key target source of financing given their ability to generate funds through their business operations at much greater magnitudes than NGOs and civil society can through fund-raising activities. The BFP aims to enhance private sector financing for biodiversity through: 1) making better use of the more traditional, philanthropic channels such as trust fund and CSR programmes (grant instruments) and; 2) drawing in investments into the biodiversity sector to eventually create a biodiversity market and grow the existing resource-based industries and resource-based services in Malaysia (market instruments). Additionally, how public sector finances biodiversity will need to be enhanced. This will be the third point: 3) to make better use of existing resources.

### 4.1 Trust funds and CSR programmes (Grant instruments)

As grant instruments, these channels can finance proposals so long as it matches their philanthropic aspirations and such investments can be reviewed and adjusted at each round of grant approvals. These channels thus provide smaller, shorter-term fund injections that are more flexible and adaptive to a wider variety of biodiversity needs. Additionally, grant-based funding also creates a platform for collaboration – where organisations are connected by common desired impact rather than official mandate. Such characteristics render them suitable as supplementary financing to the larger but more rigid biodiversity financing. In other words, these funds can help 'fill in the gaps' where other mechanisms cannot.

At this point, it is perhaps important to draw the distinction between trust funds and CSR programmes. The former is a separate entity from the parent company and is governed by a board of trustees to fulfil specific philanthropic purposes. The parent company may provide seed grants or annual contributions but the management of funds are distinctly separate. As such, they are more likely to have their own management plans to guide grant priorities and other fund-raising efforts. Trust funds are also liable to audit processes and thus are more structured in their processes. On the other hand, CSR programmes are usually kept within the company operations and adhere to company planning and reporting mechanisms. These programmes are usually ad-hoc, less structured and have less robust reporting compared to trust funds, at least as practices in Malaysia. There are of course some exceptions with very large and long-term CSR projects, such as the investment of research and development facilities by PETRONAS in Imbak Canyon, Sabah, although less commonly seen.

In order to make better use of such financing for biodiversity, there are three points to address – firstly that there is a general lack of direction and coordination between trust funds and CSR programmes to effectively deliver cumulative biodiversity impact; secondly, in order to establish direction and coordination, information on biodiversity needs and spending need to be made available in a timely manner to inform planning and; thirdly, that such information can only be collected and generated efficiently if a common financial planning language is used. **The BFP proposes two financing solutions to address these** 

# points, namely 'Coordinating biodiversity spending between the National Conservation Trust Fund (NCTF) and other trust funds' and 'Institutionalising the BIOFIN methodology'.

# Coordinating biodiversity spending between NCTF and other trust funds

This solution is essentially about sharing information periodically– information on national biodiversity goals and targets, financing needs and present spending patterns of trust funds in this sector. With this information, public and private trust funds can gain better insight about their positioning in the overall biodiversity financing landscape and where their funds can make the most impact to biodiversity outcomes. In doing so, it sets the basis for aligning and coordinating financing efforts between trust funds to better cover biodiversity needs as a concerted community. It also benefits the trust funds in terms of strategic positioning and promotion of the grant to potential funders and applicants alike.

Importantly, the solution does not dictate how various funds operate. That situation would be administratively taxing, less adaptable and restrictive. Instead, the solution envisions a loose community of trust funds that share information, engage in periodic discussions and support the biodiversity landscape with common vision despite financing different aspects of biodiversity management. This community would not only include private trust funds but also relevant public trust funds<sup>5</sup>.

Trust funds are used a starting point for this solution because they are more structured than CSR programmes. Once the arrangement is better established, this community can seek to include CSR programmes and other trust funds that have yet to invest in the biodiversity sector. For example, trust funds that focus on grassroots innovation, community development, education and skills training could be approached with this information and encouraged solve some biodiversity needs through including biodiversity considerations in some of their programmes.

The NCTF is poised to be a good candidate for playing the coordinating and leadership role in this community. As a public trust fund, NCTF represents a neutral party for the periodic collection, analysis and dissemination of biodiversity financing information to other trust funds. The fund would also be able to obtain latest information about biodiversity financing needs and progress made on the NPBD as it is administered by the same ministry that collects that data. Additionally, NCTF is sufficiently comprehensive in scope<sup>6</sup> and thus is able to fill in the biodiversity financing gaps where other trust funds do not.

For example, in the FNA exercise, none of the participating organisations had planned actions for Target 1, Policy action 1.3 of the NPBD which involves engaging

<sup>&</sup>lt;sup>5</sup> From the BER and FNA exercises, there were three other biodiversity trust funds mentioned by participants, including the Marine Park and Reserve Trust Fund (administered by Marine Parks Department, JTLM), the Wildlife Victim Relief Trust Fund (administered by the Department of Wildlife, PERHILITAN) and the Environmental Education Trust Fund (administered by the Department of Environment). In comparison to the NCTF, these three funds have very specific scopes to finance.

<sup>&</sup>lt;sup>6</sup>NCTF is tasked to carry out biodiversity conservation and natural resource management related activities, including activities to implement sustainable financing mechanisms. The grant is open to applicants from the public sector, research institutes and universities as well as NGOs and civil society organisations. Source: KATS (2018) NCTF. Available at: <u>http://www.kats.gov.my/en-my/biodiversity/nctf/Pages/default.aspx</u>, Accessed on 15 August 2018. In the NPBD Target 17, NCTF has a target of disbursing RM 2 million a year to projects. Strategically positioning this sum will help ensure that the financing gap is better covered.

the legislature and judiciary. Yet, successful prosecution and sentencing is critical for effective enforcement of laws as it influences deterrence levels that laws have and morale of enforcing officers. Familiarity and appreciation of legal and judicial officers towards biodiversity issues and crimes have far-reaching implications on how enforcers are advised on conducting their operations (including gathering of evidence), how legal officer prepare and present cases and how the judiciary responds to and passes sentences. Malaysia already has a network of environmental courts since 2012 and increasing their familiarity to biodiversity will enhance the effectiveness of these courts. Such biodiversity topics which are less popular among private trust funds and do not fall within the scope of other government trust funds could possibly be covered by the NCTF. In fact, two NGO organisations that participated in the FNA mentioned that they had previously conducted programmes with judges and legal officers. This suggests that it is matter of securing funds for such projects rather than a lack of pertinence to biodiversity management.

### Institutionalising the BIOFIN methodology

In order to generate the information described above, participating trust funds would need to periodically contribute their share of information to the coordinating body (possibly NCTF). Institutionalising a common methodology among this community of trust funds is needed. Based on the positive experience from BIOFIN Phase I<sup>7</sup>, the BIOFIN methodology can act as the common language for this purpose. Additional benefits of using the BIOFIN methodology is improved accountability and governance capacity among those involved in biodiversity financing and biodiversity management. These qualities are important to secure credibility and trust from potential donors, be them government, international bodies, or civil society.

By implementing these two BFP solutions well, Malaysia will be able to harness the financing that would come from voluntary donations under the pretext of appreciating nature and recognising the importance of biodiversity ecologically and socially.

<sup>&</sup>lt;sup>7</sup> The BIOFIN methodology was tested with Yayasan Sime Darby (representing private trust funds) and also a number of NGOs and government agencies (representing grant recipients of private trust funds). This includes MNS, MEME, PERHILITAN, JPSM, among others.

# 4.2 Deepen existing resource-based industries and resource-based services in Malaysia through creating a biodiversity market (market instruments)

Spending on biodiversity need not be a philanthropic venture. Instead, it can make business sense. To the world, this is the growing dimension of bioeconomy. To Malaysia, it is unrealised potential of its rich biological resources.

The market for biodiversity envisioned in this BFP is wider than the direct harvest and trade of species (presently existing legally and illegally) and the biotechnology and bioprospecting presently pursued. The biodiversity market envisioned includes products and services needed to enhance biodiversity management such as unmanned aerial vehicles and imagery data processing for monitoring of illegal logging or compliance to EIA approval guidelines; professional services to conduct certification audits, education or training to professionalise protected areas management etcetera. It also includes the opportunity to innovate products, processes and systems based on nature's designs (biomimicry, See Box 2).

### **Box 2: Biomimicry**

Coined by Janine Benyus in 1997, biomimicry is "an approach to innovation that seeks sustainable solutions to human challenges by emulating nature's time-tested patterns and strategies" (Biomimicry Institute, 2009).

"You could look at nature as being a catalogue of products, and all of those have benefitted from a 3.8 billion year research and development period. And given that level of investment, it makes sense to use it." – Michael Pawlyn

### **Examples of biomimicry**

Japan's shinkansen bullet train was the fastest train in the world at 200 miles per hour but it had one major problem – noise. Each time the train emerged from a tunnel, air pressure changes caused thunder-like clapping up to a quarter of a mile away to complain about the noise. Being an avid bird-watcher, the chief engineer of the shinkansen eventually had the idea of changing the design of the train's front end after the beak of kingfishers which are able to dive from the air into water with very little splash to catch fish. This led to final design of the shinkansen front end that we can see nowadays which enabled the train to be quieter and use 15% less electricity while travelling 10% faster.

Detecting tsunamis successfully make a large difference to the impact of the disaster. In order to reliably detect them and warn people before tsunamis reach land, sensitive pressure sensors need to be located under the waves in waters as deep as 6,000 meters before the signal is transmitted up to a buoy on the ocean surface to be relayed to a satellite and then the early warning centre. Transmitting such sound wave signals for long distances has proven difficult. Learning from dolphins' unique frequency-modulating acoustics, a company has developed a high-performance underwater modem for data transmission which are currently employed in the tsunami early warning system throughout the Indian Ocean.

Source: Biomimicry Institute (2018) Solutions to global challenges are all around us. Available at: <u>https://biomimicry.org/biomimicry-examples/</u>, Accessed on: 18 August 2018.

Its development would build on Malaysia's experience in diversifying away from primary commodities into higher value-added resource-based industries and resource-based services. The key advantage is that biodiversity is already present in the nation. The race is that biodiversity is being lost too quickly before its potential is fully realised. By using market instruments, the BFP aims strengthen the message that being biodiversity rich is to be economically rich and thus conserving and sustainably using this asset is vital for Malaysia. Mainstreaming this message successfully would mean a steadies and new revenue stream for biodiversity management in the future.

In order to develop this market and secure resources for biodiversity management, a number of points need to be addressed. Firstly, what products and services would appear in the market? And can these products and services solve the existing biodiversity financing needs? Secondly, what would compel private sector to invest in the biodiversity sector? Last but not least, is there a ready market willing to absorb the products and services generated from this endeavour? The BFP proposes four finance solutions under this umbrella solution of creating a biodiversity market, namely, 'Innovation Challenge Funds', 'Voluntary Finance standards', "Incorporating biodiversity criteria into Green Government Procurement' and 'Tax incentives for landscaping using local threatened plant species.

### Innovation Challenge Funds

This solution aims to draw private sector investment into developing innovative solutions that solve biodiversity management challenges. Solutions may come in novel or improved forms of technologies, products, systems or services, applied specifically to the biodiversity sector and reduce biodiversity financing needs. It does so by providing seed grants source from the public sector to support privately-invested projects that can potentially solve predefined biodiversity challenges. In doing so, the grant transfers some costs or risks of the private investment while 'challenging' the private sector to innovatively solve a public issue.

From the BER and FNA findings, one potential area where innovation challenge funds could impact the most is enforcement. As described in Chapter 2, Target 10.1, on enforcing the illegal poaching and trade of biodiversity, registered one of the highest financing needs (RM 3 billion for eight years) and largest gaps (RM 2 billion for eight years). If enforcement needs across all targets were included, such as in sustainable fisheries, wildlife protection, watershed management, sustainable agriculture, pollution control, protected areas management etcetera were included, these figures only increase. From the FNA submissions, nine participating organisations<sup>8</sup> had quoted the need for forensics technologies to be used in enforcement. For example, FRIM and JPSM were looking into DNA fingerprinting for logs in order to quickly identify the source location and harvesting method to help enforcement officers detect illegal logging. Similarly for JAS, chemical fingerprinting technology was needed to reduce the burden of non-point source pollution control and drone and image processing technologies were needed to monitor EIA compliance.

Innovation Challenge Funds already exist in Malaysia, such as MOSTI SMART Challenge Fund 2018<sup>9</sup>. Riding on funds to develop solutions for the biodiversity

<sup>&</sup>lt;sup>8</sup> The nine participating organisations include JPSM, FRIm, DVS, JAS, APMM, MPOB, LGM, LKM and LKTN.

<sup>&</sup>lt;sup>9</sup> This fund has three priority areas, namely Water, Food and Energy Nexus; Green Growth for Sustainable Development and Medical and Healthcare. It has four application cycles in a year and covers pre-

sector requires less effort than establishing new funds and hence should be tapped into further. Sensitising fund owners and managers as well as potential applicants towards the challenges and needs of the biodiversity sector will be necessary to ensure that this financing source solves biodiversity needs. Outputs from the institutionalising BIOFIN methodology solution will be useful for this purpose.

For the private sector, the benefit of developing solutions for the biodiversity sector is that there is a ready market of organisations in Malaysia would uptake the solution if useful in solving their operational challenges. Also, given that biodiversity management is a global need, there would also be potential for exporting products and services overseas. Although this financing solution represents shorter term injection of funds, these funds would have helped generate the products and services for the biodiversity market in the long run. For the fund owners such as MOSTI, investing in the biodiversity would help them achieve aspirations in the National Science, Technology and Innovation Policy, the National Policy of Biological Diversity and the National Green Technology Policy in addition to RMK-11.

### Incorporating biodiversity criteria into GGP

Establishing a market to take up products and services generated for the biodiversity sector is the other step that needs to be taken in order to create more private investment pull. Government procurement represents a large portion of products and services taken up from the market. By applying biodiversity criteria to procurement processes, government can support the creation of a biodiversity market. For example, a company that can use local, threatened species for landscaping government properties could be given priority over other companies that use alien plant species in support of urban biodiversity regeneration. Other examples could be the preference for biodiversity-friendly chemicals in cleaning services or land use planning advisory services that consider biodiversity impact.

This concept is not new in Malaysia. In fact, Green Government Procurement (GGP) implementation was expanded to all government agencies in 2017. Each ministry was to incorporate green specification in procurement of 20 prioritised GGP product groups. Applying biodiversity criteria to existing product groups or creating a new product group under GGP could be a way to quickly and steadily support the development of a biodiversity market in Malaysia.

### Tax incentives for landscaping using local threatened plant species

This solution is a relatively short-term solution specifically aimed at incentivising large property developers to regenerate urban biodiversity and build urban biobanks of local, threatened and endangered species of plants. Riding on the existing MIDA tax incentive for green technologies, this solution advocates that investors that spend on solutions that enrich biodiversity should be eligible for the tax allowances or exemptions. This would help the development of the sector.

Urban biodiversity did not appear as having a large gap or need from the FNA but showed a lot of potential as a starting point for private sector to get involved in enriching biodiversity within a landscape. It also posed as a good platform to help

commercialisation stage for technologies with marketable output or social benefits. Available at: <a href="http://research.utar.edu.my/rnd/news/mosti-smart-fund-2018.html">http://research.utar.edu.my/rnd/news/mosti-smart-fund-2018.html</a>, Accessed on 19 August 2018.

different agencies relate to biodiversity since the landscape also included pockets of parks, botanical gardens, forest reserves, river reserves and agroparks. Ideally, these pockets could be better connected if property developments were friendlier to local biodiversity. With more habitat, human wildlife conflict could possibly decrease.

With this pull, it is envisioned that more funds would be generated and directed to the conservation, research, sustainable use and human capital development in the botany sector. The solution also aims to be a foundation for introducing biodiversity richness criteria within the green spaces targets of the National Landscape Policy as well as in the Ecological Fiscal Transfer solution that is also proposed in this BFP. If the demand grows, there would then be opportunity to consider other financing mechanisms such as payment-for ecosystem services to ensure part of the funds spent to secure these plants are systematically channelled back to providers.

### Voluntary finance standards with biodiversity criteria

On the other end of the spectrum, this solution provides a push factor for private sector to increasingly invest in biodiversity or take up biodiversity considerations in their operations. This solution is aimed at the financers of the private sector. The potential is large given that they can truly mainstream biodiversity considerations into other sectors by specifying the need for biodiversity considerations when applying for financing.

In 2017, Bank Negara Malaysia presented on value-based intermediation and recent discussions are geared towards the adoption of common principles by nine Islamic Banks that requires them to consider the environmental and social impacts of projects they finance. Including biodiversity into these criteria would essentially help to create the demand for biodiversity services. For example, applicants who demonstrates full EIA compliance in tits projects and invests in enriching biodiversity within its location or pays PERHILITAN to manage human wildlife conflict continuously for its projects could be viewed as being more responsible to biodiversity than applicants that did not do so. In any case, having voluntary finance standards can open up opportunity for other financing solutions to come into play in the future such as bio-banking, biodiversity offsets, payment for ecosystem services, green bonds or disaster risk insurance.

By implementing these four BFP solutions, Malaysia will be tapping into a new stream of revenues from the private that can be directed partially back to biodiversity management and conservation.
#### 4.3 Enhancing public financing of biodiversity

While it is important to tap into other sources, there is also a need to enhance how biodiversity is financed publicly. The BFP proposes to achieve this through four proposed solutions.

#### Institutionalisation of BIOFIN methodology

This solution is aimed at improving the capacities and capabilities of organisations involved in biodiversity management to budget and communicate their financial needs and gaps. This is necessary to ensure better quality in budget defences to the federal and state governments and increased capability to lobby for international funds. It will also increase the accountability and compliance to outcome-based budgeting which helps to instil confidence from potential funders and donors about the progress made with the investments provided. This solution is also needed to support the development of other BFP solutions. In particular, mainstreaming biodiversity financing to state level is critical as they hold strong influence on natural resource usage and biodiversity outcomes.

### Ecological fiscal transfer

As a fiscal solution, this solution aims to influence how states and local authorities prioritise their biodiversity in face of other competing development needs. The idea is that biodiversity criteria could be included into the allocation formulae between federal government to state government in order to highlight the importance of biodiversity. To do so, there would need to be agreed criteria that would possibly be developed through the creation of the biodiversity market. Although this solution may take a long time to implement, it will create the impetus for states to consider biodiversity financing and to take up the BIOFIN methodology. If successful, this source will also become a steady source of resources for biodiversity management.

#### Scale up MBEON

The National Blue Ocean Strategy concept has proven useful to bring agencies together for a common cause and share resources. One relatively successful programme is the Malaysian Biodiversity Enforcement Operation Network (MBEON). As mentioned previously, enforcement of illegal harvesting and poaching of biodiversity currently has the largest financing needs and gaps. Effective enforcement is also critical to ensure the sustainability of our biological resources. On these notes, scaling up the MBEON in terms of coverage and frequency is a way to secure stronger collaboration and cost sharing for enforcement needs.

#### Directing part of the ABS funds to biodiversity conservation

ABS is relatively new in Malaysia although the related law has been passed. Given the legal provision allows for funds to be channelled partially for the conservation of biodiversity, biodiversity managers should make a pitch for part of the funds. Adopting the BIOFIN methodology will help these organisations identify the impact they deliver to the ABS market and systematically report how the funds will be used.

Implementing these four solutions will create a situation where the public sector makes better use of existing funds and also has the capacity to plan and lobby for more contributions from other sources. In the next pages, a snapshot of each solution is summarised. The full technical proposals for each solution are provided in Appendix IV.

## 1 SCALE UP MALAYSIA BIODIVERSITY ENFORCEMENT OPERATIONS NETWORK (MBEON)

#### WHAT IS IT?

MBEON is a National Blue Ocean Strategy (NBOS) programme implemented since 2014 to reduce losses of biodiversity. Under the initiative, the Ministry of Natural Resources and Environment (now, KATS) and the Malaysian Armed Forces (ATM) collaborate and share resources to conduct joint patrols in protected areas. The initiative not only enhances the safety of patrolling officers but also enables participating personnel to build capacity in forest patrolling and intelligence gathering, among others.

MBEON has conducted operations with PERHILITAN, ATM, JPSM, PTNJ and PTNP in Taman Negara, Endau-Rompin National Park and Royal Belum State Park. 1MBEON-Ops Samudera was launched for marine areas in late 2017. Nine (9) operations were conducted by JTLM, DOF, APMM and PTNJ in Johor, Kedah, Terengganu and Pahang.

## HOW WILL IT WORK?

The scaling up of MBEON is a move to:

- Increase the effectiveness and frequency of operations through strengthening the use of technology in communications, operations and intelligence gathering
- 2) Increase geographical coverage and expand to other protected areas
- Increase participation of committed officers and the involvement of legal officers to advise on effective evidence gathering for prosecution.
- 4) Create of a set of SOPs to ease the adoption of MBEON in other locations.

## **STAKEHOLDERS ROLES**

- National budgeting planners: Ministry of Finance (MOF), Economic Planning Unit (EPU)
- Policy driver: Ministry of Water, Land and Natural Resources (KATS)
- Operations: Terrestrial ATM, JPSM, PERHILITAN, State parks management; Marine JTLM, APMM, Marine police, DOF, JLM, state parks management
- Prosecution technical experts: Biodiversity and state legal advisors, Bar Council, legal NGOs

#### JUSTIFICATION

- Malaysia lost RM 123 million worth of biodiversity from Taman Negara alone to poaching and illegal harvesting from 2002 to 2013. Through MBEON operations in 2014 losses of biodiversity in Taman Negara reduced by 40% (RM 16 million in 2013 to RM 6 million in 2014).
- Inter-agency cooperation remains limited to the scheduled MBEON patrols.
- Enforcement to control and reduce poaching, illegal harvesting and trade of biodiversity has one of the largest biodiversity financing needs in Malaysia significant manpower, equipment, fuel and operational costs (Target 10, Action 10.1).
- MBEON's resource sharing arrangement is being reviewed by MOF and KATS and ways forward are being discussed (August 2018)



#### FINANCE SOLUTION TYPE

- Deliver better
- Realign expenditures

#### **IMPACT TERM**



Medium to Long



#### RAPIDNESS OF IMPLEMENTATION • Fast

## 2 INNOVATION CHALLENGE FUNDS FOR BIODIVERSITY

#### WHAT IS IT?

In 2013, Malaysia launched its National Science, Technology and Innovation Policy (NSTIP) 2013 – 2020 that provides a strategic plan for STI policy and investment for Malaysia's transition to an innovation economy by 2020. Given the challenges that biodiversity face, the use of science, technology and innovation can improve or complement efforts to enhance biodiversity conservation and attain the NPBD goals.

One of the government's initiatives to promote STI has been the innovation fund. Innovation challenge funds are competitive funding instruments for innovation projects. They must have commercial viability and have measurable social, economic, environmental, and to be included, biodiversity-related outcomes.

#### HOW WILL IT WORK?

Existing innovation funds such as the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC)'s InnoFund focus on new innovative products, processes or services that improving the well-being of society and stimulating innovative capacity (skills, talent). The scope can be extended to financing innovative solutions that meet biodiversity needs through including biodiversity criteria into the application.

The Malaysian Green Tech Corporation already has a green financing scheme that is widely used to develop green technology projects. This scheme could be used to finance projects that help improve biodiversity services and products in tandem with the InnoFund.

#### JUSTIFICATION

- Co-partnerships and new networks between public and private sector can not only generate new revenues, but also new solutions and potentials for further research into technology and conservation.
- This is in line with the recognising other stakeholder contributions (NPBD Target 2), capacity building (Target 15), and improving and applying the knowledge and science base for biodiversity (Target 16).
- Some examples of how innovation financing can be used to serve biodiversity needs include, financing new designs and functions of products developed from biodiversity knowledge, finding cost effective ways to monitor biodiversity assets, or improving biodiversity in its natural state or to enhance its productivity.



#### FINANCE SOLUTION TYPE

- Generate new revenue
- Realign expenditures

#### **IMPACT TERM**





#### RAPIDNESS OF IMPLEMENTATION

• Fast to Medium

#### **STAKEHOLDERS ROLES**

Funder(s)/donors: Government, development partners, foundations, or members of the public Funding mechanism management: Fund manager, review panel, third party verifiers Beneficiaries: Research institutions, universities, corporations, SMEs, individuals

## **3 COORDINATING NCTF AND OTHER TRUST FUNDS IN BIODIVERSITY SPENDING**

#### WHAT IS IT?

A trust fund consists of a variety of assets managed by trustees on behalf of the grantor to provide benefits to beneficiaries. They are vehicles to collect and allocate financial resources for specific purposes and typically disburse funds through grants.

Trust funds are important supplementing sources of biodiversity financing in Malaysia. This includes not only government trust funds such as the National Conservation Trust Fund (NCTF) and the Marine Reserve and Parks Trust Fund (MRPF), but also private trust funds such as Yayasan Sime Darby. Based on the BER, these three examples jointly spend RM 25 million a year on biodiversity-related activities albeit with different spending priorities. This amount is likely to be larger if other trust funds or larger and longer-termed CSR programmes were included. Coordinating these actors' spending would be result in more effective financing.

#### HOW WILL IT WORK?

The NCTF strategically positions itself to fund biodiversity-related activities that are lesserfunded by private trust funds. The BIOFIN methodology is used to collect information about national biodiversity financing needs and past expenditure patterns. The NCTF shares this information periodically with better to encourage private trusts streamlining of funds and to facilitate identification of partners and beneficiaries. In return, private trusts periodically submit their biodiversity expenditure data to NCTF. A pilot can first be carried out with two large private trust funds before moving on to recruit another 3 private trusts and 2 public trust funds into the coordinating arrangement.

## STAKEHOLDERS ROLES

Policy driver: KATS

Funding mechanism management: NCTF sub-committee, MOF, EPU Other stakeholders: Donors, private sector trust funds and foundations

#### JUSTIFICATION

- NPBD Target 17, Policy Action 17.2 specifically targets the scaling up of the NCTF.
- Aligning financing efforts towards achieving the NPBD is a win-win for government and private trust funds who both want to achieve the most impact for their investments
- Positioning NCTF to fill in the biodiversity needs that garner less private sector interest will ensure that financing is better spread across biodiversity goals, taking into consideration also that certain activities that are more suitably financed by a government trust fund
- Positioning against private trust funds is likely to be easier as they are more likely to have long-term funding strategies and priorities compared to CSR programmes that are adhoc

## FINANCE SOLUTION TYPE

- Avoid future costs
- Deliver better
- Realign expenditures

#### **IMPACT TERM**

Medium to Long



RAPIDNESS OF IMPLEMENTATION

• Fast to Medium

## 4 VOLUNTARY SUSTAINABLE FINANCE STANDARDS FOR FINANCE SECTOR

### WHAT IS IT?

Voluntary standards for the finance sector are based on the realisation that financers can influence the reduction of adverse environmental and social impacts through introducing certain performance requirements on the activities they finance. These include standards, codes or principles that apply to internal operations, or financial instruments such as loans or bonds. These standards complement laws and regulations and need to be designed to not compromise market competition. Globally, a number of finance standards have emerged such as the IFC Performance Standards and most recently, the Principles for Positive Impact Finance (2017). At present, the Islamic finance arm of Bank Negara Malaysia (BNM) with 9 partner Islamic banks are working on a Value-Based Intermediation (VBI) system to encourage the adoption of social and environmental standards in banking.

Biodiversity is included as a consideration in

the environment performance requirements of the VBI Guiding Principles adopted by

assessment methods, criteria or certifications

for biodiversity performance are developed to

equip bankers with the knowledge and tools to assess biodiversity impacts of financed projects. If the BIOFIN FNA methodology is

adapted into the application process, banks

can require applicants to define biodiversity

То

facilitate

this.

banks.

outcomes in relation to the NPBD.

### JUSTIFICATION

- The Malaysian financial sector has the opportunity to set the standards for biodiversity performance and enhance its competitiveness in terms of responsible financing which is growing in interest globally as exemplified by the UNEP-FI's Positive Impact Financing and the IFC's Performance Standards, among others.
- Adoption of certifications or standards belonging to other sectors (e.g. MSPO, RSPO, MTC, FSC, MyGAP, MyOrganic) by financial institutions can spin off further investment, developed and application of those standards as well
- Mainstreaming biodiversity in other sectors can happen at a much larger scale without much cost as market drivers push for increased biodiversity consideration
- Potential spin off effects on biodiversity sector jobs (e.g. research, training, assessment experts, consultancy for mitigation actions, certification and audits)
- Data on biodiversity expenditures by private sector is systematically documented

## **FINANCE SOLUTION TYPE**

- Avoid future costs
- Generate new revenue
- Realign expenditures

## **IMPACT TERM**

Medium to Long



RAPIDNESS OF IMPLEMENTATION

Fast to Medium

#### **STAKEHOLDERS ROLES**

**HOW WILL IT WORK?** 

Malaysian

Financial sector: Financial institutions, investors, issuers, borrowers Monitoring and evaluation: Local governments, external auditors, standard-setting organizations, accreditation organizations, credit rating agencies, certification agencies, credit guarantors

## 5 INCLUDE BIODIVERSITY CRITERIA IN GOVERNMENT GREEN PROCUREMENT (GGP)

#### WHAT IS IT?

GGP seeks to encourage the procurement of products and services that take into account criteria and standards for protecting the environment and minimize or mitigate the negative effects of human activities. In 2016, the government final consumption was estimated at RM154 billion (12.6% of GDP) and estimated to grow at 3.7% p.a. till 2020.

The National Green Technology Policy (NGTP) adopted GGP as a potential field for encouraging green investment and influencing behavioural change. The longterm plan for GGP is targeting nationwide implementation at all levels of government by 2020. As government consumption is expected to reach RM 178 billion by 2020, it is expected to have a significant impact on the supply side of the economy.

#### HOW WILL IT WORK?

In 2014, the federal government introduced tax incentives to boost the green technology industry in line with the GGP. The incentives include Investment Tax Allowance (GITA) for the purchase of green technology assets or for undertaking green technology projects, and Income Tax Exemption (GITE) for green technology service providers.

In order to qualify for these exemptions, the equipment or assets used by these providers or purchasers must meet the MyHIJAU Mark criteria – minimisation of environmental degradation and GHG emissions, conservation of natural resources and usage of renewable energy. Additional biodiversity-related specifications could be added to the MyHIJAU criteria, and also to GGP reporting and evaluation at all stages of the procurement process.

#### JUSTIFICATION

- The implementation of GGP in 12 ministries and their agencies in 2016 has resulted in a cumulative value of GGP amounting to RM 482 million, with cumulative CO2 emission reductions of 100.431 ktonnes.
- The standards and certifications, monitoring and evaluation developed through GGP, and also the pressure on the private sector to provide competition, supply and demand, can act as the basis for creating a market for biodiversity.
- GGP efforts are specifically indicated in Action 3.6 (i.e. Target 3) which seeks to promote sustainable consumption and production (SCP) of which GGP is at the heart of SCP.



#### **STAKEHOLDERS ROLES**

Supply chain: Malaysian Green Tech Corporation, all government ministries and agencies, local industries, suppliers, consumers

Checks and balance: MOF, technical advisors, standards accreditors, assessors of biodiversity impact

The protection of threatened species, Target 9,

has one of the highest financial needs. Target 6,

Policy Action 6.5 of the NPBD specifically

highlights the importance of conserving urban

biodiversity and is one of the lesser funded

policy actions as most funds are still centred on

Some knowledge and policy base exists - Forest

Research Institute Malaysia (FRIM)'s National

Landscape Policy and Sime Darby Property's

Tax incentives, with an expiry, could help in

developing a biodiversity market – standards for

monitoring and evaluation, policies, guidelines

(JLN)'s

National

National

Strategic for Plant Conservation,

Department

Malaysian Threatened and Rare Tree book.

## 6 TAX INCENTIVES FOR LANDSCAPING USING LOCAL THREATENED PLANT SPECIES

•

**JUSTIFICATION** 

protected areas.

Landscape

and incentives.

#### WHAT IS IT?

By 2050, two-thirds of the world's population would be living in cities. As more urban landscapes are developed to accommodate this shift, urban green spaces are increasingly attractive as incubators and bio-banks for local, rare, threatened species to counterbalance the threats to natural ecosystems.

Malaysia's national planning and landscaping policies and guidelines, such as the National Landscape Department (JLN)'s National Landscape Policy, advocate that 30% of urban development areas should be green spaces. At present, forests community gazetted and conserved by neighbourhoods meet these requirements. Developers also plant both local and alien plant species to meet these requirements. However, there are no specific criteria or incentives to prioritise local threatened plant species.

#### HOW WILL IT WORK?

Specific criteria be highlighted in landscaping policies and guidelines to encourage developers to plant local, rare, plant species threatened in their developments to meet guidelines. Tax incentives and funding are eligible for projects that use local, rare, species. Qualifying projects are eligible GITA (100% tax allowance for qualifying capital expenditure on green technology products) and matching funds, for landscaping in developments using local species. The larger objective is to create green markets and generate exports. These financial incentives expire after the markets are fully functioning.

#### **STAKEHOLDERS ROLES**

- FINANCE SOLUTION TYPE
- Deliver better
  - Realign expenditures

## **IMPACT TERM**

Short



## RAPIDNESS OF IMPLEMENTATION

Fast

Private sector supply chain: Developers, nurseries Public sector regulators and: MOF, JPBD, JLN, local authorities Technical advisors: The Malaysian Landscape Architects Association, FRIM, other experts on plant species, communities with forests and gardens

## **7 DIRECT PART OF ACCESS-BENEFIT SHARING (ABS)** FUNDS TO BIODIVERSITY

#### WHAT IS IT?

The Access to Biological Resources and Benefit Sharing (ABS) Bill 2017 was passed by the Malaysian Parliament to implement the provisions of the United Nations Convention on Biological Diversity (CBD).

The ABS Bill ensures fair and equitable sharing of benefits arising from the use of genetic resources. The bill necessitates prior, informed consent of the authority in charge of the resource before a resource is accessed. It also requires that the authority be notified whenever a patent is applied for on any resource or traditional knowledge accessed through the system. The bill also affords legal protection for the traditional knowledge of indigenous and local communities. Under the provisions of the bill, a national competent authority is to be established to administer the access and benefit sharing mechanism.

#### **HOW WILL IT WORK?**

Under the mandate of the ABS Bill, the user is charged for use of the genetic resource or traditional knowledge. The funds will be returned to the traditional knowledge holders, the custodian or owner of the areas where the resource originates. These funds would be used to manage and conserve the biodiversity for the genetic resource to flourish. An appropriate mechanism is Payments for Ecosystem Services (PES) for the funds to go back to the areas as per the and conditionality additionality requirements of the PES scheme

#### **JUSTIFICATION**

- As of August 2018, state level competency agencies have been established to discuss and draft standard operating procedures (SOPs) for the ABS mechanism. It is timely to ask that a percentage of the funds be earmarked for biodiversity conservation and sustainable use.
- Target 14 of the NPBD focuses solely on ABS and is also one of the most underfunded Targets in the FNA. Policy Action 14.1 on developing and enforcing ABS legislation, and Policy Action 14.3 on the protection and documentation of ILCs traditional knowledge have no mention in the FNA at all.
- ABS also enables collaboration and contribution to scientific research and development, access to relevant to conservation and sustainable use data, and contributions to the local economy and knowledge (Targets 16 and Target 2).



## **FINANCE SOLUTION TYPE**

Generate new revenue

# **STAKEHOLDERS ROLES**

Funding mechanism: ABS state competent agency, State treasury, ABS fund committee, MOF, EPU, NRE, State legal advisors

Potential beneficiaries - State governments, JPSM, JPSM, JAKOA, NGOs, ILCs

## **8 ECOLOGICAL FISCAL TRANSFERS**

#### WHAT IS IT?

The Federal Constitution of Malaysia defines the powers of the federal and state governments whereby the power over land and other matters, as listed in the Ninth Schedule, is the prerogative of the latter. Under the Schedule, states have jurisdiction over land, agriculture, forest, water, turtles riverine fisheries. Concurrent and responsibilities are defined and include wildlife, national parks, agriculture and forestry research. Hence, biodiversity, which is a special character of forests, rivers and marine areas falls under state jurisdiction.

States are also entitled to revenues derived from matters under their jurisdiction. In addition, federal government give to each state a grant that is based on population (capitation) and for road maintenance. But there are no provisions for federal transfers of funds for biodiversity conservation. States raise revenues from extractive activities and in the process, damage, degrade and undermine the biodiversity value of forests, rivers and lakes. As a result, large mitigating expenditures are incurred, especially for flood abatement and water security.

#### HOW WILL IT WORK?

An ecological criteria is added to the capitation grant formulae, so that a certain percentage of fiscal transfers from federal to state is earmarked for ecology. This is meant to compensate states for their opportunity loss and provide a basis for proper management of forest and ecological assets. This criteria should include not only the size of protected areas but also biodiversity richness measurements.

#### **JUSTIFICATION**

- The new government has stated in their Manifesto (Promise No.3) that they are willing to share the country's wealth more equitably and to balance environmental protection with the objective of sustainable development and sustainability (Promise No.39).
- This finance solution can serve as a tool to empower state and local governments in addressing biodiversity conservation challenges through ecological fiscal transfers.
- The conservation of state forest and river systems benefits the nation as biodiversity and ecosystem services produce positive externalities beyond state boundaries
- NPBD Target 17 focuses on generating new funds for conservation and Target 3 highlights the mainstreaming of biodiversity conservation. Targets 6, 7 and 8 that focus on protected areas, vulnerable ecosystems, and ecological corridors, respectively are also relevant.



#### FINANCE SOLUTION TYPE

- Avoid future costs
- Realign expenditures

IMPACT TERM • Long

## RAPIDNESS OF IMPLEMENTATION

Slow

#### **STAKEHOLDERS ROLES**

National budgeting planners: MOF, EPU, KATS Negotiating partners: The federal and state governments and the National Land Council Implementing partner: UNDP Malaysia Office Technical support: Research institutes

## **9 BUILDING A BUSINESS MARKET** FOR BIODIVERSITY

#### WHAT IS IT?

Malaysia is among the top 12 bio-diverse countries in the world. However, it has yet to fully take advantage of this natural economic wealth and competitive advantage. Existing biodiversity markets focus on the marketing of biodiversity conservation as able to spur competitive economic growth. However, these markets primarily provide services of offsetting and compensations for managing and conserving ecosystem services.

This solution proposes that biodiversity is the next sector that can be developed to inject further growth and diversification resource-based into industries and resource-based services. This solution can prompt investment into research and knowledge-based activities, protection and conservation of biodiversity, sustainable use of biological resources as well as education and human capital development.

### HOW WILL IT WORK?

Malaysia will develop a market that harnesses the spin-off value generated by trading biodiversity knowledge as well as the products and the services inspired by biodiversity. This includes services to manage, maintain and restore biodiversity as well as sustainably harness the ecosystem services provided. Strong enforcement as well as development of standards, certifications and labelling would be needed as preventive measures against exploitation overharvesting or of biodiversity.

#### **JUSTIFICATION**

- Target 17 focuses on creating a sustainable income for biodiversity conservation.
- In addition to the experience of diversifying downstream activities of the commodities sector and the strong export networks, Malaysia is perhaps the only Southeast Asian country with the right mix of development and sufficient natural resources that would enable it to lead this sector.
- The nation has invested in a network of terrestrial and marine protected areas in addition to forest reserves where biodiversity is conserved.
- The nation has in place a number of institutions and policies that could grow further with the development of this sector, such as the National Biotechnology Policy.
- Markets for direct harvest and trade of biodiversity already exist in Malaysia.



#### **FINANCE SOLUTION TYPE**

- Avoid future costs
- Generate new revenue

#### **IMPACT TERM**

**RAPIDNESS OF IMPLEMENTATION** 

**STAKEHOLDERS ROLES** 

Innovators: Scientists, designers, planners, product developers Regulators: Government and other regulators who design guidelines, enforce and monitor Business sector: Financial sector, donors, investors, entrepreneurs

## 5 **BFP Implementation**

#### 5.1 Action Plan

### 5.1.1 Activities

The Biodiversity Finance Plan comprises nine solutions in total. Of the nine, three are short term – redirect environmental fines to mainstream biodiversity in judicial and legal officers, tax incentives for landscaping using local threatened species and include biodiversity criteria to Government Green Procurement (GGP). The first is meant to be short term as the long-term effect of the solution is to increase the effectiveness of environmental enforcement, and thus the ultimate goal would be a reduction in environmental crimes, and thus environmental fines. The other two involve tax incentives and are thus meant to be short term as well.

Biodiversity Finance Solution Len	gth	Implementation		
Short Term	Long Term	Fast	Medium	Slow
Redirect environmental fines to mainstream biodiversity in judicial and legal officers			х	
Tax incentives for landscaping using local threatened species	(Ecological fiscal transfers)		х	х
Include biodiversity criteria to Government Green Procurement (GGP)	Building a business market for biodiversity		х	х
	Strengthen Malaysia biodiversity enforcement operations network	х		
	Innovation challenge funds for biodiversity	x	x	
	Voluntary finance standards for finance sector	x	х	
	Direct part of Access-Benefit Sharing (ABS) funds to biodiversity		x	x
	Coordinating NCTF and other trust funds in biodiversity spending	х	х	

#### Table 4: Time frame of biodiversity finance solutions

The long-term solutions include strengthening the Malaysia Biodiversity Enforcement Operations Network, setting up the innovation challenge funds for biodiversity, establishing voluntary finance standards for the finance sector, directing part of the ABS funds to biodiversity, coordinating the NCTF and other trust funds in biodiversity funding and finally building a business market for biodiversity. These are long term as they are sustainable finance solutions and sustainable effects on biodiversity as well. Where there are two solutions in the same row (one in short term and the other in long term), namely for biodiversity criteria in GGP, the standards and monitoring and evaluation methods should ideally contribute towards building a business market for biodiversity. We predict that the short-term solution will evolve into or pave the way for the long term solution.

Figure 3 illustrates the possible sequencing of solutions based on the speed in which they can be implemented.



Figure 3: Tentative timeframe and sequence of implementing solutions

## 5.1.2 Time Frame

The time frame of this Biodiversity Finance Plan follows the time frame of the National Policy on Biological Diversity (NPBD) which is until 2025. Nonetheless, these finance solutions have varying rapidness of implementation – short, medium and long, and diverse terms – short and long. Regardless of the rapidness of implementation, all solutions should be implemented within the time frame of the NPBD, by 2025. As for the finance solution term length, the short- and medium-term ones would fall under the time frame of the NPBD. Ideally, the medium to long term solutions will carry on their own, especially given that their nature is meant to be sustainable.

## 6 Summary and Conclusion

In conclusion the BFP presents nine finance solutions to address the biodiversity financing needs and gaps. While the best estimate thus far is based on 31 organisations needs and gaps, the solutions have taken a larger viewpoint towards reducing financing needs and increasing resources by having a mix of solutions that will help deliver better, avoid future costs, realign expenditures and generate new revenues. The technical proposals provide a starting point for implementing these solutions but further feasibility assessment and pilot testing if recommended prior to full adoption.

Importantly, institutionalising the BIOFIN methodology across wider stakeholders and down to sub-national levels is an important overarching solution. It helps to mainstream the challenge of biodiversity financing and provides common language for stakeholders to understand the existing biodiversity financing landscape. Its adoption will support the development of the other nine solutions and thus is one solution that will need to be undertaken throughout the BFP implementation process.

Communicating the biodiversity challenge, BIOFIN and its methodology as well as the priority solutions listed in this BFP will be critical for the successful implementation of the solutions. A separate Communications Plan has been produced to supplement this BFP. Within the Communications Plan are suggested key messages, focus topics for each stakeholder and possible communication channels.

As per the NPBD, the progress and implementation of the BFP and supplementary Communications Plan should be monitored and evaluated. This is to ensure that both Plans are adaptive to the changing needs of the implementation of NPBD.

This BFP has mentioned a number of possible stakeholders to implement the Plan and its solutions. On that note, it is necessary to emphasise that commitment from the Ministry of Water, Land and Natural Resources (KATS)<sup>10</sup> to undertake the overall resource mobilisation effort is critical. Based on the BIOFIN Phase I project experience, there are already 31 organisations who have been engaged and they represent key allies in pursuit of this BFP. Continuing the spirit of collaboration, discussion and partnership will help secure a smoother implementation of the BFP.

Additionally, continued assistance and support from the Economic Planning Unit (EPU), Ministry of Finance (MOF) and the United Nations Development Programme Malaysia Country Office (UNDP Malaysia) will further add momentum towards mobilising the necessary resources and achieve the national biodiversity goals as enshrined in the National Policy on Biological Diversity 2016-2025.

<sup>&</sup>lt;sup>10</sup> Formerly known as the Ministry of Natural Resources and Environment (NRE)

## Glossary

Term	Acronym	Definition	Source	Website
Average Annual Growth Rate	AAGR	Also known as the compound annual growth rate, the AAGR shows an average value for the annual rate of change over a period of time (typically several years) allowing for the compound effect of growth.	Eurost at	http://ec.europa.eu/eurostat/statistics- explained/index.php/Glossary:Annual average gro wth rate %28AAGR%29
Biodiversity Expenditure Review	BER	An analysis of public and private expenditures in the country that benefit biodiversity. The assessment establishes past, present and projected expenditures on biodiversity.	BIOFIN	https://www.biodiversityfinance.net/
Biodiversity Finance Initiative	BIOFIN	BIOFIN supports countries with a methodology that provides innovative steps to measure current biodiversity expenditures, assess financial needs, identify the most suitable finance solutions and provides guidance on how to implement these solutions to achieve their national biodiversity target.	BIOFIN	https://www.biodiversityfinance.net/
Biodiversity Finance Plan	BFP	Identifies and prioritises a mix of suitable biodiversity finance solutions to reduce the biodiversity finance gap.	BIOFIN	https://www.biodiversityfinance.net/
BIOFIN category and sub-categories		These are internationally recognised categorisations according to BIOFIN, of the biodiversity functions that different costable actions can play	BIOFIN	https://www.biodiversityfinance.net/
Core team		The BIOFIN project Core Team includes the Economic Planning Unit (EPU), Ministry of Finance (MOF), Ministry of Natural Resources and the Environment (NRE), the Ministry of Agriculture (MOA), the Ministry of Plantation Industries and Commodities (MPIC) and United Nations Development Programme (UNDP).		
Creativity Index	СІ	Assesses the quantifiable socio-economic impacts of proposed projects	AMIM	http://www.amim.org.my/AMIM/11th-malaysia- plan-manufacturing-workshop-to-prepare-logical- framework-matrix-and-creativity-index/
Department of Environment	DOE	Also known as Jabatan Alam Sekitar. Formerly a part of NRE, JAS is now an agency under the Ministry of Energy, Technology, Science and Climate Change. DOE functions to prevent, eliminate, control pollution and improve the environment, consistent with the purposes of the Environmental Quality Act 1974 and in line with international agreements and conventions.	DOE	www.doe.gov.my
Department of Irrigation and Drainage	JPS	Also known in Malay as Jabatan Pengairan dan Saliran. An agency under KATS, JPS strives to provide engineering expertise services and water resource management in a holistic way that balances water security, safety and environmental sustainability.	JPS	www.water.gov.my

Term	Acronym	Definition	Source	Website
Department of Marine Parks Malaysia	JTLM	Also known as Jabatan Taman Laut Malaysia. An agency under KATS, JTLM is responsible for the management and conservation of marine protected areas in Peninsular Malaysia.	JTLM	www.jtlm.gov.my
Department of Wildlife and National Parks	PERHILIT AN	Also known as Jabatan Perlindungan Hidupan Liar dan Taman Negara Semenanjung Malaysia. This agency under KATS is responsible for the protection and management of wildlife and national parks in Malaysia.	PERHI- LITAN	www.wildlife.gov.my
Economic Planning Unit	EPU	EPU, now under the Ministry of Economic Affairs, is responsible for economic planning for the nation	EPU	www.epu.gov.my
Financial Needs Assessment	FNA	Estimates the finance required to deliver national biodiversity targets and plans, usually described in the NBSAPs.	BIOFIN	https://www.biodiversityfinance.net/
Kuala Lumpur Stock Exchange	KLSE	Also known as Bursa Malaysia, KLSE is the Malaysian stock market.	KLSE	www.bursamalaysia.com
Logical Framework Method	LFM	Includes outcome, output and activities, with specific key performance indices and verification methods and assumption	ΑΜΙΜ	http://www.amim.org.my/AMIM/11th-malaysia- plan-manufacturing-workshop-to-prepare-logical- framework-matrix-and-creativity-index/
Malaysia Plan	MP	The Malaysian government plans its development based on 5-year economic development plans also known as Rancangan Malaysia.	EPU	www.epu.gov.my
Malaysian Maritime Enforcement Agency	APMM	Also known as Agensi Penguatkuasaan Maritim Malaysia, APMM is the primary enforcer of Malaysia's marine borders.	APMM	www.mmea.gov.my
Ministry of Agriculture	MOA	Also known as Kementerian Pertanian dan Industri Asas Tani.	MOA	www.moa.gov.my
Ministry of Finance	MOF	Also known as Kementerian Kewangan.		www.treasury.gov.my
Ministry of Natural Resources and the Environment	NRE	As of July 2018, known as the Ministry of Water, Land and Natural Resources, also known as Kementerian Air, Tanah dan Sumber Asli (KATS).	KATS	www.kats.gov.my
Ministry of Plantation Industries and Commodities	MPIC	Also known as Kementerian Perusahaan Perladangan dan Komoditi.	MPIC	www.mpic.gov.my
Ministry of Urban Well-being, Housing and Local Government	КРКТ	Also known as Kementerian Perumahan dan Kerajaan Tempatan.	КРКТ	www.kpkt.gov.my

Term	Acronym	Definition	Source	Website
National Policy on Biological Diversity	NPBD	Malaysia formulated the National Policy on Biological Diversity (NPBD) 2016-2025, building on its predecessor policy of 1998 to protect this valuable asset and achieve the CBD goals. The Policy functions as Malaysia's National Biodiversity Strategies and Action Plan. The NPBD has 5 goals, 17 targets with 57 policy actions.	KATS	www.kats.gov.my
Outcome-based budgeting	OBB	Similar to results-based costing and results-based budgeting – This approach uses a logical framework methodology in planning where the desired impact is first defined before detailing out the expected outcomes, outputs, and specific actions to achieve it.	BIOFIN	www.biodiversityfinance.net
Policy and Institutional Review	PIR	Looks into the policy and institutional context for biodiversity finance in the country and establishes the key stakeholders to involve.	BIOFIN	www.biodiversityfinance.net
Prime Minister's Department	JPM	Also known as Jabatan Perdana Menteri, this is a federal government ministry in Malaysia. Its objective is to ensure an efficient environment that will enable the Prime Minister to carry out his responsibilities	JPM	www.jpm.gov.my
Sustainability Reporting		Private sector companies report on the sustainability - economic, environmental and social performance of its everyday activities		https://www.globalreporting.org/information/sust ainability-reporting/Pages/default.aspx
UN Convention on Biological Diversity	CBD	Main objectives: The conservation of biological diversity; The sustainable use of the components of biological diversity; The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources	CBD	www.cbd.gov.my
United Nations Development Programme	UNDP	Provides strategic policy-oriented advice and support for the national policy agenda as well as institutional capacity building in key areas, in line with the agreed country programme for Malaysia.	UNDP	www.undp.gov.my

#### Appendix I: BIOFIN BFP methodology

This appendix describes the methodology used to identify and assess the biodiversity finance solutions presented in this Biodiversity Finance Plan. The methodology used is adapted from the BIOFIN Global Workbook 2016, Biodiversity Finance Plan chapter.

#### **Biodiversity Finance Plan (BFP) methodology**

The study team first carried out a brainstorming session to identify 15 to 20 financial solutions based on the findings from BER and FNA. While the solutions were meant to address the biodiversity financial gap in general, the study team also prioritised solutions that could address specific gaps and needs highlighted in the Financial Needs Assessment (FNA) data collected from the 31 sample organisations. The study team also drew from the additional analysis on the types of activities carried out by the various organisation, key themes that the organisations had in common based on similar outcomes and costable actions put forth in the FNA.

Other key considerations were the BFP requirement that there is a mix of different types of financial solutions, namely, a diverse mix of solutions that were able to realign expenditure, avoid future costs, deliver better and generate new revenue. Another criteria was appropriate sequencing – an adequate balance of both short and long term solutions so as to ensure that relatively easier to implement solutions, such as those that expand upon existing mechanisms or improve on existing collaborations, could be carried out while planning for longer term ones that involved more institutional change. Lastly, the solutions were also selected based on their contributions to sustainable development in general.

For example, the solution to scale up MBEON due to Target 10 being identified as one of the targets with the highest needs, and enforcement being a key quantifiable expected outcome that was raised by almost all organisations. This solution is also a relatively easier one to implement as it merely expands and improves upon an existing resource sharing agreement. The introduction of tax incentives for urban landscaping using local, threatened, rare plant species solution was identified based on key themes highlighted by multiple organisations that revolve around conservation of threatened plant species and the promotion of urban biodiversity. It may take longer to implement due to its more complex institutional nature.

After this brainstorming process, the study team conducted a rapid assessment of the various financial solutions, which included three main criteria – impact on biodiversity, financial impact and likelihood of success – supported by justifications. This managed to narrow down the solutions to 10 main ones (Table 5). Next, these 10 solutions were presented to the core team, and the BIOFIN stakeholders at the June 2018 workshop. The participants, some of whom had personal experience working with these solutions, or in the enabling environments of these solutions provided comments and constructive feedback on the feasibility of these solutions. They also suggested improvements, or additional management, financial or economic considerations. The study team then analysed the mix of financial solutions again and decided to remove a few and add a few other suggestions by the core team.

The final selection of 10 solutions as presented in this Biodiversity Finance Plan then underwent a detailed assessment, where the scoring assisted in the prioritisation of which solutions to drive first. The 20 questions in the assessment that addressed the feasibility of the solution, design, risks and impact (Table 6), initiated the thought process that informed the writing of the technical proposals.

Criteria	Scoring Guidance
Impact on biodiversity	<ul> <li>(4) Very high impact on threatened/endangered species and habitats and critical<sup>11</sup> ecosystem services.</li> <li>(3) High impact on biodiversity and ecosystem services.</li> <li>(2) Moderate impact on biodiversity and ecosystem services.</li> <li>(1) Low impact or high uncertainty about the same.</li> <li>(0) No or insignificant impact.</li> </ul>
Financial impact	<ul> <li>(4) Potential to mobilize or save a very high amount of resources. A significant impact on the biodiversity finance agenda.</li> <li>(3) Potential to mobilize or save a high amount of resources. Indicatively 15 per cent of current expenditures or needs.</li> <li>(2) Potential to mobilize or save a moderate amount of resources compared to existing expenditures or needs. Indicatively between 5-15 per cent of current expenditures or needs.</li> <li>(1) Potential to mobilize or save a low amount of resources compared to existing expenditures or needs. Indicatively under 5 per cent of current expenditures or needs.</li> <li>(0) Minimal scale of resources mobilized or saved if compared to current expenditures or needs.</li> </ul>
Likelihood of success	<ul> <li>(4) Very high likelihood of success. Broad based political and social support and/or sound commercial viability (if relevant). No major operational challenges known. Good records or expectations of success, replicability or scalability in comparable contexts.</li> <li>(3) High likelihood of success. Sufficient political and social support. Commercially viable (if relevant). Operational challenges are manageable. Relevant records of success, replicability or scalability in comparable contexts.</li> <li>(2) Moderate likelihood of success due to limited political or social support or known operational or technical barriers. Limited commercial viability (if relevant). Limited records of success due to high political or social resistance or major operational or technical barriers. Limited commercial viability (if relevant).</li> <li>(1) Low likelihood of success due to high political or social resistance or major operational or technical barriers. Limited commercial viability (if relevant).</li> <li>(2) Virtually no chance of success under current conditions. Commercially unviable (if relevant).</li> </ul>

### **Table 5: Criteria for Rapid Screening of solutions**

Source: UNDP 2016 BIOFIN Workbook

Questions	Indicative marks for scoring (1-5)
Is there a positive record of implementation?	1= no, or limited records of success 3= successful pilots 5= yes, high potential of scalability
Will it generate, leverage, save, or realign a large volume of financial resources?	1= minimal scale 2= <5 per cent of current expenditures/needs 3= 5-15 per cent of current expenditures/needs 4= >20 per cent of current expenditures/needs 5= game changer
Will financing sources be mobilized in a compatible timeline with needs?	<ul> <li>1 = no, the mobilization is not aligned with needs</li> <li>3 = likelihood of being mobilized in alignment with needs</li> <li>5 = yes, forthcoming and compatible schedules</li> </ul>
Will financing sources be stable and predictable?	<ul> <li>1 = no, the source of revenue may be highly unstable and vulnerable to external factors</li> <li>3 = likelihood of being reasonably stable and predictable source</li> <li>5 = yes, very stable and predictable</li> </ul>
Do the persons or entities paying have a willingness and ability to pay or invest?	1 = no 3 = possibly 5 = yes
Are the financial risks adequately managed (e.g. exchange rate, lack of investors, etc.)?	1 = no, high risks remain 3 = moderate risks 5 = yes, low residual risks
Are start-up costs onerous in comparison to the expected financial returns?	<ul> <li>1 = very costly (compared to returns)</li> <li>3 = moderate (compared to returns)</li> <li>5 = very low/minimal (compared to returns)</li> </ul>
Does the solution improve incentives to manage biodiversity and ecosystems sustainably? (see Chapter 1).	1 = not clear 3 = likely 5 = most certainly

## Table 6: Criteria for Detailed screening of solutions

Questions	Indicative marks for scoring (1-5)
Will the financial resources remain targeted to biodiversity over time?	1 = not clear, high risk of misallocation 3 = likely, administrative provisions 5 = yes, strong legal provisions
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	1 = high risks, no easy mitigation 3 = reasonable risks, mitigation possible 5 = low risks, easy safeguards
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural and gender equality)?	1 = no 3 = moderate 5 = strong positive impact
Have risks of significant unintended negative social consequences been anticipated and managed?	1 = no, high risks remain 3 = moderate and manageable 5 = yes, minimal residual risks
Will it be viewed as equitable and will there be fair access to the financial and biodiversity/ecosystem resources?	1 = no, risk of inequitable outcome 3 = maybe 5 = yes
Is it backed by political will?	1 = no, resistance from key stakeholders 3 = maybe 5 = yes, with public statements in support
Have political risks been anticipated and managed?	1 = no, high risks remain 3 = moderate and manageable 5 = yes, minimal residual risks
Is buy-in among stakeholders (i.e. potential investors/ decision makers, implementers, and beneficiaries) sufficiently strong to counter potential opposition?	1 = no 3 = partial buy-in 5 = yes, strong buy-in
Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	1 = no, severe capacity gap 3 = moderate capacity gap 5 = yes, strong capacity
Is it legally feasible? How challenging will any legal requirements be?	1 = no, new law is required 3 = new regulations required 5 = yes, new regulations are not needed
Is it coherent with the institutional architecture, can synergies be achieved?	1 = no, limited or no synergies/coherence 3 = potential synergies 5 = yes, fully coherent/large synergies

Source: UNDP 2016 BIOFIN Workbook

Target 1: By 2025 more Malaysians ar aware of the values of biodiversity and the steps they can take to conserv and use it sustainably.	e d Lead Agency	Key Partners	Related Actions
1.1 Create awareness across all segments of society		Department of Environment, Natural Resources & Environment Board Sarawak, Environmental Protection Department Sabah, civil society, private sector	1.2, 1.3
1.2 Nurture participation amongst children and youth	Ministry of Natural Resources & Environment	Ministry of Education, Forestry Department Peninsular Malaysia, Department of Wildlife and National Parks Peninsular Malaysia, Department of Marine Park Malaysia, Department of Environment, Ministry of Resource Planning and Environment Sarawak, Natural Resources & Environment Board Sarawak, Forest Department Sarawak, Sabah Forestry Department, Environmental Protection Department Sabah, Sarawak Biodiversity Centre, Sabah Biodiversity Centre, civil society	1.1
1.3 Engage with the legislature and judiciary		Attorney General's Chambers, Sabah AG Chambers, Sarawak AG Chambers	1.1, 15.4
Target 2: By 2025, the contribution of indigenous peoples and loca communities, civil society and the private sector to the conservation and sustainable utilisation of biodiversit have increased significantly.	s I e Lead Agency Y	Key Partners	Related Actions
2.1 Recognise, support and empower indigenous peoples and local communities		Ministry of Urban Well-being, Housing & Local Government, Ministry of Rural and Regional Development, Department of Orang Asli Development, Sabah Biodiversity Centre, Sarawak Biodiversity Centre, civil society	1.1, 2.4, 6.3
2.2 Recognise, support and empower civil society	Ministry of Natural Resources &	National Biodiversity Centre, civil society	1.1, 2.4, 15.2
2.3 Develop sustained collaborations with the private sector	Environment	National Biodiversity Centre, private sector	2.4, 3.4, 15.2
2.4 Enhance stakeholder participation in decision making processes		National Biodiversity Centre, civil society, private sector, higher education institution	2.1, 2.2, 2.3, 15.2
Target 3: By 2025, biodiversity conservation has been mainstreamed into national development planning and sectoral policies and plans.	Lead Agency	Key Partners	Related Actions
3.1 Embed biodiversity conservation into national and state development planning and sectoral policies and plans	Ministry of Natural Resources &	State Economic Planning Units, Ministry of Plantation Industries & Commodities, Ministry of Energy, Green Technology & Water, Ministry of Agriculture and Agro-based Industries, Ministry of Tourism, Ministry of Works Malaysia, Economic Planning Unit, Department of Minerals & Geoscience, Department of Environment, State Economic Planning Units, civil society	3.2, 4.1, 4.2, 4.3
3.2 Recognise the economic value of biodiversity and ecosystem services	Crivironment	Economic Planning Unit, Forestry Department Peninsular Malaysia, Department of Marine Park Malaysia, State Economic Planning Units, Forest Department Sarawak, Sabah Forestry Department, Sabah Parks, Sarawak Biodiversity Centre, Sabah Biodiversity Centre	4.4
3.3 Protect environmentally sensitive areas in statutory land use plans	Ministry of Urban Well-being, Housing & Local Government	Ministry of Resource Planning & Environment Sarawak, Town & Country Planning Department Pen Malaysia, Town & Regional Planning Department, Sabah	6.1, 6.2, 6.5
3.4 Promote sustainable consumption and production	Economic Planning Unit	Ministry of Natural Resources & Environment, Ministry of Finance, Ministry of Energy, Green Technology & Water, civil society, private sector	4.1, 4.2, 4.3

## Appendix II: NPBD targets, policy actions and implementing agencies

Target 4: By 2025, our production forests, agriculture production and fisheries are managed and harvested sustainably.		Lead Agency	Key Partners	Related Actions
4.1	Strengthen sustainable forest management	Ministry of Natural Resources & Environment	Ministry of Plantation Industries & Commodities, Forestry Department Peninsular Malaysia, Sabah Forestry Department, Forest Department Sarawak, Forest Research Institute Malaysia	3.2, 7.2
4.2	Strengthen agricultural planning and improve practices	Ministry of Agriculture and	Ministry of Plantation Industries & Commodities, Department of Agriculture, Malaysian Palm Oil Board, Malaysian Palm Oil Certification Council, civil society, private sector	3.2, 7.2
4.3	Implement the Ecosystem Approach to Fisheries Management	Agro-based Industries	Department of Fisheries, private sector	3.2, 10.1
4.4	Rationalise incentives that are harmful to biodiversity	Ministry of Agriculture and Agro-based Industries, Ministry of Plantation Industries & Commodities,	Ministry of Natural Resources & Environment, Ministry of Finance, Economic Planning Unit, Department of Fisheries	3.2

Tar sus bio	get 5: By 2025, tourism is tainably managed and promotes diversity conservation.	Lead Agency	Key Partners	Related Actions
5.1	Identify and mitigate impacts of tourism on biodiversity	Ministry of Tourism & Culture	Ministry of Natural Resources & Environment, private sector	3.2
5.2	Promote green guide certification		Ministry of Natural Resources & Environment, private sector	5.1
5.3	Engage indigenous peoples and local communities in nature tourism and promote volunteerism		Forestry Department Peninsular Malaysia, Department of Marine Park Malaysia, Sabah Forestry Department, Forest Department Sarawak, Department of Wildlife & National Parks, Sabah Parks, civil society, private sector	2.1, 2.2
Targ terr 10% con syst effe mea	get 6: By 2025, at least 20% of estrial areas and inland water, and of coastal and marine areas, are served through a representative em of protected areas and other ective area-based conservation asures.	Lead Agency	Key Partners	Related Actions
6.1	Expand the extent and representativeness of our terrestrial PA network		State Economic Planning Units, Forestry Department Peninsular Malaysia, Sabah Forestry Department, Sabah Parks, Forest Department Sarawak	3.3, 6.5, 8.1, 8.2
6.2	Expand the extent and representativeness of our marine PA network		Department of Marine Parks, Department of Fisheries, Sabah Parks, Forest Department Sarawak	3.3, 8.3
6.3	Develop community conserved areas as an integral part of our PA network	Ministry of Natural Resources & Environment	Forestry Department Peninsular Malaysia, Sabah Forestry Department, Sabah Parks, Forest Department Sarawak, Department of Fisheries, civil society, Indigenous & Local Communities	2.1
6.4	Improve the effectiveness of PA management		Forestry Department Peninsular Malaysia, Department of Wildlife & National Parks, Sabah Forestry Department, Sabah Parks, Sabah Wildlife Department, Forest Department Sarawak, Johor National Parks Corporation, Perak State Parks Corporation	6.1, 6.2
6.5	Protect and maintain biodiversity in urban areas	Ministry of Urban Well-being, Housing & Local Government	Ministry of Natural Resources & Environment, National Biodiversity Centre, Ministry of Resource Planning and Environment Sarawak, Forest Department Sarawak, Town and Country Planning Department Pen. Malaysia, Sabah Town and Regional Planning Department, Land and Survey Department, Sarawak, Town & Country Planning Department Pen Malaysia, civil society	3.3

Target 7: By 2025, vulnerable ecosystems and habitats, particularly limestone hills, wetlands, coral reefs and seagrass beds, are adequately protected and restored.	Lead Agency	Key Partners	Related Actions
7.1 Identify, map and protect all vulnerable ecosystems		Forestry Department Peninsular Malaysia, Department of Wildlife and National Parks Peninsular Malaysia, Department of Marine Park Malaysia, State Economic Planning Units, Sabah Forestry Department, Forest Department Sarawak, Sabah Wildlife Department, Research Institutions	6.1, 6.2
7.2 Improve management and rehabilitation of vulnerable ecosystems	Ministry of Natural Resources & Environment	State Economic Planning Units, Forestry Department Peninsular Malaysia, Sabah Forestry Department, Forest Department Sarawak, Department of Marine Parks, Research Institutions	6.1, 6.2, 6.3
7.3 Support the implementation of the National Action Plan on Peatlands		National Biodiversity Centre, State Economic Planning Units, Forestry Department Peninsular Malaysia, Sabah Forestry Department, Forest Department Sarawak, Department of Irrigation & Drainage, Department of Environment, Department of Agriculture, Chief Minister's Department Sarawak, civil society	7.1, 7.2
Target 8: By 2025, important terrestrial and marine ecological corridors have been identified, restored and protected.	Lead Agency	Key Partners	Related Actions
8.1 Strengthen the implementation of the CFS Masterplan for Peninsular Malaysia		State Economic Planning Units, Forestry Department Peninsular Malaysia, Department of Town and Country Planning Peninsular Malaysia, Department of Wildlife & National Parks Peninsular Malaysia, Forest Research Institute Malaysia, civil society	6.1, 6.3
8.2 Strengthen the implementation of terrestrial connectivity under the HoB initiative	Ministry of Natural Resources & Environment	State Economic Planning Units, Sabah Forestry Department, ForestDepartmentSarawak, civil society	6.1, 6.3
8.3 Identify, map and protect marine ecological corridors		State Economic Planning Units, Department of Marine Parks, Department of Fisheries, Sabah Parks, Sabah Town & Regional Planning Department, Forest Department Sarawak	6.2, 6.3
Target 9: By 2025, the extinction of			
known threatened species has been prevented and their conservation status has been improved and sustained.	Lead Agency	Key Partners	Related Actions
9.1 Conduct conservation assessments for plants and animal species		National Biodiversity Centre, Forest Research Institute Malaysia, Department of Wildlife & National Parks, Department of Fisheries, Forestry Department Peninsular Malaysia, Sabah Forestry Department, Forest Department Sarawak, Sabah Wildlife Department	7.1, 9.1, 15.4
9.2 Protect our most threatened species	Ministry of Natural Resources & Environment	Department of Wildlife & National Parks, Forestry Department Peninsular Malaysia, Sabah Forestry Department, Forest Department Sarawak, Sabah Parks, Sabah Wildlife Department, Department of Fisheries, Forest Research Institute Malaysia, civil society	6.1, 6.2, 7.1, 7.2
9.3 Develop a national strategy for ex-situ conservation		Ministry of Agriculture and Agro-based Industries, National Biodiversity Centre, Department of Wildlife & National Parks, Sabah Wildlife Department, Forest Department Sarawak, Research Institutions	9.1

### Malaysia Biodiversity Finance Plan 2018

Target 10: By 2025, poaching, illegal harvesting and illegal trade of wildlife, fish and plants are under control and significantly reduced.	Lead Agency	Key Partners	Related Actions
10.1 Strengthen enforcement to eradicate poaching, illegal logging and illegal trade in wild animals, fish and plants	Ministry of Natural	Malaysia Maritime Enforcement Agency, Customs Department, Royal Malaysian Police, Department of Fisheries, Department of Wildlife & National Parks, Forestry Department Peninsular Malaysia, Sabah Forestry Department, Sabah Wildlife Department, Forest Department Sarawak	15.1, 15.4
10.2 Reduce demand through public awareness and behavioural change	Resources & Environment	National Biodiversity Centre, Forestry Department Peninsular Malaysia, Department of Wildlife and National Parks Peninsular Malaysia, Department of Marine Park Malaysia, Forest Department Sarawak, Sabah Forestry Department, Sabah Parks, civil society, private sector	1.1
Target 11: By 2025, invasive alien species and pathways are identified, priority species controlled and measures are in place to prevent their introduction and establishment.	Lead Agency	Key Partners	Related Actions
11.1 Improve our understanding and public awareness about IAS		Ministry of Natural Resources & Environment, Ministry of Plantation Industries & Commodities, Department of Agriculture, state agriculture and fisheries departments, Research Institutions, civil society	1.1, 16.1
11.2 Conduct risk assessment on all introduced exotic species before their release	Ministry of Agriculture and Agro-based Industries	Ministry of Natural Resources & Environment, Ministry of Plantation Industries & Commodities, Department of Agriculture, state agriculture and fisheries departments	12.1, 12.2
11.3 Strengthen quarantine inspection and enforcement at entry points and international borders		Ministry of Natural Resources & Environment, Ministry of Plantation Industries & Commodities, Customs Department, Marine Department Malaysia, Port Authorities	10.1
Target 12: By 2025, By 2025, a			
comprehensive biosafety system inclusive of a liability and redress regime is operational to manage potential adverse impacts of modern biotechnology on biodiversity and human health.	Lead Agency	Key Partners	Related Actions
12.1 Enhance inspection and biosafety compliance	_	Ministry of Agriculture and Agro-based Industries, Department of Biosafety, Research Institutions	11.2, 11.3
12.2 Assess impacts of LMOs on biodiversity and human health	Ministry of Natural Resources & Environment	Ministry of Agriculture and Agro-based Industries, Department of Biosafety, Research institutions, civil society	11.2
12.3 Develop response to biosafety emergencies		Ministry of Agriculture and Agro-based Industries, Department of Biosafety	15.1, 15.4
Target 13: By 2025, the genetic diversity of cultivated plants and			Polatod

diversity of cultivated plants and farmed and domesticated animals and of wild relatives is adequately conserved.		Lead Agency	Key Partners	Related Actions
13.1	Support the implementation of the National Strategies and Action Plans on Agricultural Biodiversity Conservation and Sustainable Utilisation	Ministry of Agriculture and Agro-based Industries	Ministry of Natural Resources & Environment, Department of Agriculture, MARDI, Research institutions, private sector	9.3, 11.1, 11.2, 11.3, 12.1, 12.2, 12.3

Target 14: By 2025, Malaysia has an operational ABS framework that is consistent with the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation	Lead Agency	Key Partners	Related Actions
14.1 Develop and enforce legislation on ABS	Ministry of Natural	Attorney General's Chambers, Sabah Biodiversity Centre, Sarawak Biodiversity Centre, civil society	15.4
14.2 Enhance capacity and awareness on ABS		National Biodiversity Centre, Sabah Biodiversity Centre, Sarawak Biodiversity Centre, civil society	1.1, 15.1
14.3 Protect and document the traditional knowledge, innovations and practices of indigenous peoples and local communities	Resources & Environment	Sarawak Biodiversity Centre, Sabah Biodiversity Centre, Forest Research Institute Malaysia, Department of Orang Asli Development, civil society	2.1, 16.1
Target 15: By 2025, capacity for the implementation of the national and subnational biodiversity strategies, the CBD and other related MEAs has significantly increased.	Lead Agency	Key Partners	Related Actions
15.1 Strengthen the capacity of government agencies to manage biodiversity		Public Services Department, National Biodiversity Centre, Ministry of Plantation Industries & Commodities, Ministry of Energy, Green Technology & Water, Ministry of Agriculture and Agro-based Industries, Ministry of Tourism and Culture	3.1, 4.1, 6.4, 10.1, 11.3, 12.1
15.2 Strengthen coordination and decision making at the national level		State Economic Planning Units, civil society	2.4, 15.1
15.3 Establish a framework and mechanisms for implementing the national policy at the state level.	Ministry of Natural Resources & Environment	State Economic Planning Units	3.1, 15.1
15.4 Strengthen the legislative framework to support the Policy implementation		Attorney General Chambers	3.1, 4.3, 6.3, 9.3, 10.1, 12.1
15.5 Strengthen international and transboundary cooperation		Ministry of Foreign Affairs, Natural Resource Office, Sabah, Ministry of Resource Planning and Environment, Sarawak, Department of National Heritage, civil society	6.1, 6.2, 8.1, 8.2, 8.3

Target 16: By 2025, knowledge and the science base relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are significantly improved and applied.		Lead Agency	Key Partners	Related Actions
16.1	Enhance the quality and quantity of research on Malaysia's biodiversity	Ministry of Natural	Ministry of Higher Education, National Biodiversity Centre, Ministry of Science, Technology and Innovation, Sarawak Biodiversity Centre, Sabah Biodiversity Centre Forest Research Institute Malaysia, Department of Wildlife & National Parks, Forestry Department Peninsular Malaysia, Sabah Wildlife Department, Forest Department Sarawak, Department of Fisheries, Research Institutions	7.1, 9.1, 11.1, 12.2, 16.2, 16.3
16.2	Establish comprehensive databases and monitoring programmes			4.3, 9.1
16.3	Improve our knowledge on the link between climate change and biodiversity	Environment		7.1, 7.2
16.4	Improve the interface and communication between science and policy			1.1, 15.2
Target 17: By 2025, there is a significant increase in funds and resources mobilised for the conservation of biodiversity from both government and non-government sources.				
Targ incr mol bioc and	et 17: By 2025, there is a significant ease in funds and resources bilised for the conservation of diversity from both government non-government sources.	Lead Agency	Key Partners	Related Actions
Targ incr mol bioo and 17.1	et 17: By 2025, there is a significant ease in funds and resources oilised for the conservation of diversity from both government non-government sources. Improve the utilisation of the existing funding mechanisms	Lead Agency	Key Partners	Related Actions All
Targ incr mol bioo and 17.1	et 17: By 2025, there is a significant ease in funds and resources oilised for the conservation of diversity from both government non-government sources. Improve the utilisation of the existing funding mechanisms Scale up the National Conservation Trust Fund for Natural Resources	Lead Agency Ministry of Natural Resources & Environment	Key Partners Economic Planning Unit, Ministry of Finance, State Planning Unit, State Treasuries, civil society, private sector	Related Actions All All
Targ incr mob bioo and 17.1 17.2 17.2	et 17: By 2025, there is a significant ease in funds and resources bilised for the conservation of diversity from both government non-government sources. Improve the utilisation of the existing funding mechanisms Scale up the National Conservation Trust Fund for Natural Resources Explore and implement new and innovative financing mechanisms	Lead Agency Ministry of Natural Resources & Environment	Key Partners Economic Planning Unit, Ministry of Finance, State Planning Unit, State Treasuries, civil society, private sector	Related Actions All All All

Note: The list of key partners mentioned in Table 3-1, is non exhaustive.

## Appendix III: BIOFIN categories (biodiversity functions)

# **Tagging - BIOFIN Categories**

#### **Biodiversity Knowledge**

- Biodiversity Education
- Biodiversity Communication
- Indigenous and local community knowledge
- Biodiversity knowledge improved, shared and applied
- · Managerial and technical capacity increased
- Evaluation, accounting and monitoring methods

#### **Resilient Infrastructure**

- Sustainable energy infrastructure
- Sustainable roads
- Public sustainable recreational areas
- · Sustainable water systems
- Sustainable transportation
- Sustainable urban areas

#### Sustainable Business

- Sustainable Consumption
- Corporate Sustainability (CSR)
- Nature based tourism
- Green Supply Chain
- Responsible Extractive Industries

#### Sustainable Use

- Sustainable Land Management
- Sustainable marine and coastal management
- Sustainable Fisheries
- Sustainable Agriculture
- Sustainable Aquaculture
- Sustainable Forestry
- Sustainable Rangelands
- Sustainable Wildlife
- Watershed Management

#### Targeted species and genetic conservation

- Ex-situ conservation of endangered species
- In-situ conservation of endangered species outside PAs
- Species extinction threat reduction
- Agro-biodiversity maintained

#### **Climate Change Mitigation and Adaptation**

- GHG mitigation
- Sustainable energy
- Ecosystem Based Adaptation

#### **Biosafety**

- Invasive Alien Species
- LMOs & GMOs

#### **Pollution control**

- · Protection of ambient air and climate
- Wastewater management
- Waste management
- Protection and remediation of soil, groundwater and surface water
- Other pollution reduction

#### **Ecosystem management and restoration**

- Reduce or stop loss of valuable habitats
- Improve ecosystem connectivity
- Conservation of valuable ecosystem services
- · Restoration of ecosystems

#### Access and Benefit Sharing (ABS)

- Nagoya Protocol
- Bioprospecting

#### **Conservation Areas**

- Expand PA Systems
- Improve PA Management
- Expand landscape conservation
- Improve landscape conservation management

#### Biodiversity Planning, Finance and Management

- Strategic planning
- Biodiversity policy and management
- Environmental finance planning
- Environmental finance policy and management
- International environmental agreements and conventions
- Environmental laws and regulations
- Environmental law enforcement

**Appendix IV: Finance Solutions Technical Proposal** 

## **1** Scale up Malaysia Biodiversity Enforcement Operations Network (MBEON)

## **1.1** Rationale and justification

## 1.1.1 Why this solution?

MBEON is a National Blue Ocean Strategy (NBOS)<sup>11</sup> programme implemented since 2014 to reduce losses of biodiversity. Under the initiative, the Ministry of Natural Resources and Environment (now, KATS) and the Malaysian Armed Forces (ATM) collaborate and share resources to conduct joint patrols in protected areas. The initiative not only enhances the safety of patrolling officers but also enables participating personnel to train up on forest patrolling techniques and tactics, map reading, communication systems, species data collection, identification of encroachment routes and implementing successful arrests and collection of prosecution evidence.

Through MBEON operations in 2014, losses of biodiversity in Taman Negara reduced by 40%, from RM 16 million in 2013 to RM 6 million in 2014. MBEON has conducted successful operations with Department of Wildlife and National Parks (PERHILITAN), ATM, Forestry Department of Peninsular Malaysia (JPSM), Perbadanan Taman Negara Johor (PTNJ) and Perbadanan Taman Negeri Perak (PTNP) in Taman Negara, Endau-Rompin National Park and Royal Belum State Park<sup>12</sup>.

A pilot 1MBEON-Ops Samudera was also launched for marine areas in 2017. Nine operations were conducted collaboratively between Department of Marine Park Malaysia (JTLM), Department of Fisheries Malaysia (DOF), Malaysia Maritime Enforcement Agency (MMEA) and PTNJ in the state of Johor, Kedah, Terengganu and Pahang. A total of 42 boats were checked and total of 26 fishermen were detained for illegally fishing into Marine Park areas. The offenders were charged under the Fisheries Act 1985 with a total fine imposed was RM 21,200.00. As of 2018, there have been 30 arrest cases, 104 vessels checked, with total compounds of RM7,500.00<sup>13</sup>. However, the level of inter-agency cooperation remains limited to the MBEON patrols that are scheduled a few times a year.

As of August 2018, MBEON's resource sharing arrangement is being reviewed by the Ministry of Finance (MOF) and the Ministry of Water, Land and Natural Resources (KATS, formerly NRE). MOF has shortlisted MBEON as one of the NBOS initiatives to be carried forward, whereas KATS will begin discussions with MBEON stakeholders such as PERHILITAN and the Ministry of Defence (MINDEF) on ways forward for the coordination mechanism (PERHILITAN, 2018). It is timely to discuss methods in which to scale up MBEON.

<sup>&</sup>lt;sup>11</sup> A national management strategy and platform which brings together all levels of government and the private sector to develop initiatives that are high impact, low cost and rapidly implemented (UCTC, 2018) <sup>12</sup> PERHILITAN (2018). Responses from PERHILITAN on MBEON.

<sup>&</sup>lt;sup>13</sup> JTLM (2018). Responses from JTLM on MPEON

<sup>&</sup>lt;sup>13</sup> JTLM (2018). Responses from JTLM on MBEON.

## 1.1.2 Biodiversity and the NPBD

Enforcement to control and reduce poaching, illegal harvesting and trade of biodiversity has one of the largest biodiversity financing needs in Malaysia as significant manpower, equipment, fuel and operational costs are needed. This is reflected in the needs of Target 10, Action 10.1 of the NPBD, which has financial needs of RM 3,021.4 million, as identified by the 31 sample organisations that participated in the FNA. In fact, Malaysia lost RM 123 million worth of biodiversity from Taman Negara alone to poaching and illegal harvesting from 2002 to 2013. This solution would also address Target 9, prevent the extinction and improve the conservation status of threatened species, and Target 15, that focuses on capacity building to conserve biodiversity. The former identified needs of RM1,475.5 million while the latter identified RM 42.5 million as the financial needs identified specifically for capacity building in marine enforcement.

## 1.2 Design of solution

## 1.2.1 How does it work?

For the terrestrial MBEON, PERHILITAN acts as the planning and implementing coordinator, ATM contributes their skills in terms of technical training, assets and manpower and other agencies provide data on encroachment hotspots. This process of coordination is carried out over a series of coordinating meetings and planning with ATM, technical training and also the SMART program<sup>14</sup> for data collection purposes. For the marine MBEON, JTLM acts as the main coordinator in collaboration with MMEA, marine police, DOF, JLM and State Park authorities. As of now, both terrestrial and marine MBEON are carried out in scheduled operations a few times annually, in particular locations, with specific agencies.

The scaling up of MBEON is a move to first increase the effectiveness and frequency of operations, second, increase geographical coverage, and third, increase participation of committed officers. To address the first, from the terrestrial perspective, MBEON is looking into strengthening the use of technology in communication, operations and intelligence gathering. There are also plans to expand these operations to other protected areas, but an effective model with standard operating procedures on the coordination mechanism must first be strengthened. Once these two are in place, then only can MBEON look to how to ensure the consistency and sustainability of MBEON teams, where in the event of an enforcement emergency, there will be a team of MBEON officers always ready to be called upon. PERHILITAN is actually looking to form a specialised team to focus exclusively on enforcement activities in targeted protected areas.

The marine MBEON on the other hand is examining all three methods of scaling up as well. First, they plan to increase the frequency of operations as well as more effective intelligence gathering and information sharing among agencies, second, expand to more marine areas, and third, increase the number of different participating agencies involved<sup>15</sup>. As with the terrestrial arm of MBEON, the marine MBEON would also do well to standardise their

<sup>&</sup>lt;sup>14</sup>Spatial Monitoring and Reporting Tool (SMART) software that assists in monitoring and enforcement (PERHILITAN, 2018)

<sup>&</sup>lt;sup>15</sup> JTLM (2018)

operating procedures to enable branches of the partnering agencies in other locations to adopt MBEON relatively easily.

Additionally, since MBEON already trains and executes effective arrests, the involvement of legal officers to ensure that more enforcement operations can, through streamlined intelligence and evidence gathering, result in more effective prosecution and sentencing. This could enable MBEON to contribute to the linkage between enforcement operations, arrests and prosecutions. Perhaps a citizen reporting mechanism would also assist in strategising and planning which locations to expand to in the near future.

## 1.2.2 Risks and mitigation measures

There are opportunity costs involved in the MBEON. Since MBEON is a collaborative effort, certain risks that have been raised are whether potential offenders can predict the timing of MBEON patrols and reschedule their criminal activities for non-MBEON patrolled times. Instead, enforcement agencies that are already understaffed and underfunded, will have to allocate more resources to combat this encroachment. This would result in MBEON creating additional burdens on enforcement agencies instead of alleviating existing burdens.

Mitigating measures have been put in place such as, ensuring that trainings are carried out far from the operations site, and high levels of security are placed on the sharing of intelligence gathered. These measures must be constantly re-evaluated to ensure the effectiveness of the solution.

## 1.3 Strategies

## 1.3.1 Planning

A review of the existing MBEON arrangement and what factors affect the effectiveness of the arrangement is first needed. Then, a feasibility study of scaling up MBEON should be carried out to determine what factors would affect the scaling up process, and perhaps which order to scale up by – frequency and effectiveness of operations, geographical coverage or more participation from officers of different partners.

Additionally, to gauge the feasibility of scaling up MBEON, and gather information on existing challenges, this requires stakeholder consultations with MBEON planners and implementers, financial and legal officers, organisations and local communities, and others who are involved in enforcement activities. These must be carried out prior to scaling up in order to address existing issues that may have already arisen, such as the consistency and quality of skills, the rigidity of scheduled activities, challenges in coordinating and communicating among stakeholders, or hotspots that may not be on the direct radar of enforcement agencies.

Draft short- and long-term action plans. Prior to implementation, an action plan for the scaling up of MBEON should be drafted. Expected outcomes, costable actions, priorities, cost items, etc. should be mapped out clearly, along with a strategic timeline. The BIOFIN methodology would contribute well towards costing out the actions.

These action plans could be separated into a short-term plan for RMK-11 and a longer term plan, for RMK-12. These plans must be communicated to all relevant authorities and stakeholders as long-term commitment by partnering agencies and financiers is needed to ensure that MBEON is both effective and sustainable. These should be targeted beyond just government agencies but also to local and indigenous communities, as well as relevant NGOs who work in these locations, or can contribute training or skills to MBEON.

## 1.3.2 Implementation

Standardised operating procedures (SOPs) or guidelines that document MBEON processes, common outcomes and pitfalls should be drafted. This would enable existing coordinators to better plan for and monitor more frequent operations. The SOPs would also provide potential coordinators and partnering agencies in other localities a basis upon which to initiate their own MBEON initiatives. With annual reviews of the MBEON according to these SOPs, lessons can be learned and improved upon for the next year's operations and further scaling up.

## 1.4 Expected outcomes, financial and economic results

The expected outcome of this solution is that the strength of the MBEON partnership is increased and sustained so that it is well on its way to becoming part of the standard enforcement patrolling support network, and biodiversity is mainstreamed into national priorities. In the long run, the scaling up of MBEON should aim to demonstrate the feasibility and sustainability of it as an effective solution to reduce crimes against biodiversity, and against the nation.

In terms of realignment of expenditure, this solution can, through the capacity building aspect of the resource sharing, also contribute towards sensitising participating agencies to key biodiversity priorities, retraining and improving resource managers' skills in intelligence gathering. This would reduce costs of carrying out awareness programs, and capacity building for individual agencies. Additionally, the increased rate of successful arrests and prosecution would result in reduced crimes against biodiversity, reduced economic losses in terms of biodiversity as well, and long-term commitments from member agencies and financiers to sustain MBEON.

## 1.5 Responsible parties and respective roles

**Ministry of Finance (MOF)** – MOF allocates operating expenditure (OE) to each contributing agency specifically for activities related to MBEON. These are then used by respective agencies to carry out their role with regards to MBEON.

**Ministry of Water, Land and Natural Resources (KATS, formerly known as NRE)** – Relevant divisions should oversee and support coordination of MBEON at a policy level, and lobby for MBEON and its contribution to biodiversity to be a priority within the ministry and beyond.

For terrestrial, Department of Wildlife and National Parks (PERHILITAN), Malaysia Armed Forces (ATM), Forestry Department Peninsular Malaysia (JPSM), State parks management

– PERHILITAN is the main planning and implementing coordinator, ATM contributes skills training, assets and manpower, other agencies provide data on encroachment hotspots.

For marine, Department of Marine Park Malaysia (JTLM), Malaysia Maritime Enforcement Agency (MMEA), Marine Police, Department of Fisheries (DOF), Marine Department Malaysia (JLM), State parks management – JTLM acts as the main coordinator in collaboration with MMEA, marine police, DOF, JLM and State Park authorities.

Non-governmental organisations, Community-based organisations, Local and Indigenous communities – In addition, non-governmental or community-based organisations as well as local and indigenous communities would have their own networks and means of identifying those who encroach upon the forests for illegal purposes. These stakeholders would contribute well if a citizen reporting aspect of MBEON is included.

**Prosecution technical experts, especially in wildlife, forestry, marine, fisheries, state legal advisors, Bar Council, legal NGOs** – these would strengthen the link between enforcement operations with prosecution and sentencing, especially in terms of intelligence gathering and knowledge of the various criminal offences and supporting laws.

## **1.6** Timeline and milestones for implementation

## Review and preparatory work: RMK-11 (2 years)

- Review of existing MBEON terrestrial and marine operations
- Feasibility studies on ROI, scaling up of MBEON in terrestrial and marine areas. This will inform the drafting of the action plans.
- Development of SOPs or Toolkit for operations

## Pilot implementation: RMK-12 (1 year)

• The pilot implementation should be of a fully scaled up model of MBEON in at least 2 new terrestrial and 2 new marine locations. This pilot will then be evaluated and lessons learned will be incorporated into the long term plan for MBEON.

## Full implementation: RMK-12 (ongoing, with annual reviews)

• The full scale improved MBEON is to be implemented in RMK-12.

Criteria	Score	Justification
Impact on biodiversity	4	This solution has a very high impact on biodiversity as the enforcement operations are aimed at curbing illegal poachers, harvesters.
Financial 3 impact		If collaboration between agencies is successful in increasing the effectiveness of enforcement, and also prosecution, the total biodiversity value saved would be high. The realignment of expenditure would also ensure better delivery through less overlap, and sharing of resources.
Likelihood of	4	It would be relatively easy for the scaling up to be carried out,

## 1.7 Rapid Screening

success		especially since MBEON is an existing solution for sharing of
		enforcement operations resources that is currently being reviewed for the next phase.
Total	11	

## 1.8 Detailed Screening

Questions	Score
Is there a positive record of implementation?	5
Will it generate, leverage, save, or realign a large volume of financial resources?	4
Will financing sources be mobilized in a compatible timeline with needs?	3
Will financing sources be stable and predictable	3
Do the persons or entities paying have a willingness and ability to pay or invest?	3
Are the financial risks adequately managed (e.g. Exchange rate, lack of investors, etc.)?	5
Are start-up costs onerous in comparison to the expected financial returns?	5
Does the solution improve incentives to manage biodiversity and ecosystems sustainably?	5
Will the financial resources remain targeted to biodiversity over time?	5
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	3
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural)?	3
Would there be a positive impact on gender equality, especially regarding participation in design and implementation or access to opportunities and benefits?	1
Have risks of significant unintended negative social consequences been anticipated and managed?	3
Will it be viewed as equitable and will there be fair access to the financial and biodiversity/ecosystem resources?	3
Is it backed by political will?	3
Have political risks been anticipated and managed?	3
Is buy-in among stakeholders (i.e. potential investors/decision makers, implementers and beneficiaries) sufficiently strong to counter potential opposition?	5
Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	3
Is it legally feasibly? How challenging will any legal requirements be?	5
Is it coherent with the institutional architecture, can synergies be achieved?	5
Total	75

## 1.9 Technical proposal summary

Criteria Scale up MBEON

Rationale and justification	Through MBEON operations in 2014, losses of biodiversity in Taman Negara reduced by 40%, from RM 16 million in 2013 to RM 6 million in 2014. MBEON has conducted successful operations with PERHILITAN, JPSM, the military and NGOs in Taman Negara, Endau-Rompin National Park and Royal Belum State Park. A pilot 1MBEON-Ops Samudera was also launched for marine areas in late 2017. However, the level of inter- agency cooperation remains limited to the MBEON patrols that are scheduled a few times a year.
Design of solution	<ul> <li>Scale up MBEON in both terrestrial and marine protected areas:</li> <li>Increase frequency and effectiveness of existing operations</li> <li>Expand geographical reach to other protected areas</li> <li>Increase the participation consistency and build capacity of</li> </ul>
	personnel from participating agencies
Strategies	<ul> <li>Review existing MBEON challenges and successes using yearly evaluation and monitoring data</li> <li>Engage in discussions with enforcement planners and implementers, local communities, legal officers, and others who are involved in enforcement activities to gauge priorities for and feasibility of scaling up</li> <li>Carry out feasibility studies to determine the factors influencing MBEON's current effectiveness, and for scaling up</li> <li>Draft short- and long-term action plans</li> <li>Carry out pilot study in 2 marine and 2 terrestrial areas</li> <li>Prepare paper to upper management and parliament</li> <li>Draft SOPs and guidelines for operations</li> <li>Full-scale implementation</li> <li>Monitoring and evaluation</li> </ul>
Expected outcomes, financial and economic results	<ul> <li>Strengthen the MBEON partnership arrangement to enable its frequency, capacity and sustainability beyond scheduled operations a few times a year, to patrols embedded into existing enforcement operations</li> <li>Strengthen the link between good enforcement operations through MBEON and successful prosecution and sentencing</li> <li>Increased arrests and prosecution, reduced biodiversity crimes, reduced economic losses</li> <li>Long-term financial commitment by partnering agencies</li> </ul>
Responsible parties and respective roles	For terrestrial, PERHILITAN, ATM, JPSM, state parks management For marine – JTLM, APMM, marine police, DOF, JLM, State parks management NGOs, Local and Indigenous communities Prosecution technical experts – wildlife, forestry, marine, fisheries and state legal advisors, Bar Council, NGOs
Clear timeline and milestones for implementation	<ul> <li>Preparatory work: RMK-11 (2 years)</li> <li>Pilot implementation: RMK-12 (1 year)</li> <li>Full implementation: RMK-12 (evaluation yearly)</li> <li>Milestones:</li> <li>Review of MBEON operations as of 2018</li> </ul>

- Feasibility study of scaling up MBEON
- Short- and long-term action plan
- Pilot studies in at least 2 terrestrial and 2 marine areas
- SOPs and guidelines for MBEON operations
- MBEON scale up in frequency, to new territories, and in terms of participation from partner agencies

## 1.10 References

Department of Marine Park Malaysia (2018). Responses from JTLM.

Department of Wildlife and National Parks (2018). Responses from PERHILITAN.

University Community Transformation Centre (2018). National Blue Ocean Strategy (NBOS). Available at: <u>http://uctc.uthm.edu.my/index.php/national-blue-ocean-strategy-nbos</u>, accessed on 13 August 2018.

World Wide Fund for Nature-Malaysia (2018). Statement on Budget.

## 2 Innovation challenge funds for biodiversity

## 2.1 Rationale and justification

## 2.1.1 Why this solution?

In 2013, Malaysia launched its National Science, Technology and Innovation Policy (NSTIP) 2013 – 2020 that provides a strategic plan for STI policy and investment for Malaysia's transition to an innovation economy by 2020.<sup>16</sup> One of the government's initiatives to promote STI has been the innovation fund. Given the challenges that biodiversity face, the use of science, technology and innovation techniques can improve or complement efforts to enhance biodiversity conservation and attain the goals of the NPBD. Already in the market, satellite and drones for example, have been used for monitoring vast areas of land use and forest. Aircraft have been used for reforestation of vast areas of land. It is important is to explore whether innovation financing can be used to serve biodiversity needs. They include financing new designs and functions of products developed from biodiversity knowledge, finding cost effective ways to monitor biodiversity assets, or improving biodiversity in its natural state or to enhance its productivity, etc.

Innovation challenge funds are competitive funding instruments for innovation projects. They must have commercial viability and have measurable social, economic, environmental, and to be included, biodiversity-related outcomes. Thus, innovation funds are a subsidy that hopes to increase public or private investment in innovation. The application of innovation funds is intended to resolve key challenges in biodiversity conservation or to commercialise or develop products from our biodiversity resource base.

## 2.1.2 Biodiversity and the NPBD

The Innovation Fund could incorporate a biodiversity or green technology element with links to key NPBD goals and biodiversity needs. Some examples as identified in the FNA are: intelligence gathering for enforcement, measurement of fish stocks using big data, monitoring of illegal vessels using satellite imagery, forensics for enforcement and prosecution such as DNA fingerprinting of wood and water pollutants, technology to help identify the adverse effects of LMOs and GMOs on humans and biodiversity as well as disaster and climate mitigation. Through the Innovation Fund, members of the private sector, academia, civil society, community groups and individuals will be able to contribute towards environmental and biodiversity related goals. This is in line with the NPBD Target 2 on recognising other stakeholder contributions, Target 15 on capacity building and Target 16, improving and applying the knowledge and science base for biodiversity.

<sup>&</sup>lt;sup>16</sup>https://mastic.mestecc.gov.my/en/sti/kandungan-sti/row/sti-policies/national-science-technology-and-innovation-policy
# 2.2 Design of solution

# 2.2.1 How does it work?

Existing innovation funds such as the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC)'s InnoFund focus on new products, processes or services that recombine, fuse, integrate or refine technologies. The objective of the innovation fund is aimed at improving the well-being of society, stimulating innovative capacity (skills, talent). The scope can be, we argue, extended to financing innovative solutions to meet biodiversity needs and issues through including biodiversity criteria into the application for the Innovation Challenge Fund and other funds such as the Science Fund that focuses on research priority areas such as Life Sciences, Agriculture Sciences, Engineering and Social Science research and development in applied sciences.

The Malaysian Green Tech Corporation already has a green financing scheme that is widely used to develop green technology projects, to reduce impact on climate change, sustainable transport, green buildings and waste recycling. The green financing scheme could be used to finance projects that help improve biodiversity services and improve on products; this can be done jointly with the InnoFund.

# 2.2.2 Risks and mitigation measures

Innovation funds can have a high maintenance cost, as funders may want to have constant oversight over the use of their funds in projects, especially where the indicators of success are hard to measure. Instead of financing biodiversity, more funds may go to oversight and monitoring.

A key risk would be the design of the funds. In a discipline already short of resources, this concept of investing in biodiversity innovation and technology might not be so well received by conservationists. Joppa (2015) mentions that technological approaches, if scattered, inconsistent and lacking in depth research or understanding of the biodiversity context can often cause even more problems. One example is the equipment for monitoring of fishing vessels can only handle short ranges and thus inappropriate for the East Coast (APMM, 2018).

Another key concern is that innovation is mainly driven by funding rather than the results. When the funding stops, the innovation stops too.

Biodiversity projects may have a different time horizon than other types of projects, and the financing should recognise this kind of support. Otherwise, the financing may fall short when results are just around the corner.

#### 2.3 Strategies

# 2.3.1 Planning

Engage a committee of experts in biodiversity and also innovation technology to advise the innovation fund on themes related to biodiversity. The committee should identify key technological challenges faced by the biodiversity community, and explore technologies to provide potential solutions, and seek potential funds to support those initiatives.

Review of existing innovation funds in Malaysia, how they work, funding sources, effectiveness and sustainability of the funds. Review the extent to which they incorporate biodiversity into their criteria, or the percentage of innovations that target biodiversity or that can potentially be used for biodiversity purposes.

Gauge existing perceptions of the connections and links between biodiversity and technology and innovation in different industries, among the government, research and innovation centres. Conduct a cost and benefit analysis of adopting biodiversity as a theme for innovation solutions.

# 2.3.2 Implementation

Launch a pilot innovation fund for biodiversity aimed at identified stakeholders. It will take one year to go through the entire cycle – from promotional campaigns, calls for proposals, judging and awards, support for the winners, options for sustainability. Monitor every step of the process and evaluate the effectiveness of the pilot innovation fund for biodiversity. Gather data to convince the innovation fund management team to adopt biodiversity as a yearly theme. Refine the scheme and roll out after key challenges are resolved.

#### 2.4 Expected outcomes, financial and economic results

Deliver better management of biodiversity with technological solutions, generate new revenue through co-partnership between public and private sector, and realignment of expenditure from science, technology and innovation to biodiversity related needs and issues.

The alignment of science, technology and innovation and biodiversity through the innovation fund could also potentially be a starting point for the development of a new area of economic growth – a market for products that use our biodiversity resources.

#### 2.5 Responsible parties and respective roles

Funder(s)/donors: Government, development partners, foundations, members of the public - These are the primary financial contributors to the innovation challenge fund.

Funding mechanism management: Fund manager, third party verifiers, committee of technical experts for the review panel – These are key players in the management and operations of the innovation challenge fund.

**Beneficiaries: Research institutions, universities, corporations, SMEs, individuals** – These are potential applicants to the fund. They could also be technical collaborators that identify the key biodiversity priorities to be addressed by the fund. They could also form part of the network and platform for adopting and financing the solution and research after the fund cycle is complete.

# 2.6 Timeline and milestones for implementation

### Review and preparatory work: RMK-11 (6 months)

- Gather biodiversity and innovation experts to review the biodiversity issues and where the potential for participating in the Innovation Challenge Fund
- Sensitise the tech community on the importance of their contribution to biodiversity conservation
- Perception survey on connection between technology and biodiversity among relevant industry players, potential funders, biodiversity implementers, research and innovation institutions and members of the public
- Gather together experts to be the review panel for the Innovation Challenge Fund
- Seek out partnerships and platforms for sustainability

# Pilot Innovation Fund with Biodiversity Theme: RMK-11 (1 year)

 Pilot test an innovation fund for biodiversity aimed at identified stakeholders. It will take one year to go through the entire cycle – from promotion campaigns, calls for proposals, judging and awards, support for the winners, options for sustainability, monitoring and evaluation

#### Full scale Innovation Fund for Biodiversity: RMK-12 (yearly)

- Awareness raising and presentation to top management
- Roll out the Innovation Challenge Fund for biodiversity
- Monitoring and evaluation

#### 2.7 Rapid Screening

Criteria	Score	Justification
Impact on	4	This solution has a very high impact on biodiversity as the solutions
biodiversity		could be applicable in most areas of biodiversity.
Financial impact	3	Potential to mobilize or save a high amount of resources. Indicatively 15 per cent of current expenditures or needs. The fund reduces the risks and costs of private investment while "challenging" the private sector to innovate for the public good. The grants/ concessional finance are risk-sharing subsidies since the private firm co-invests its own resources and leverage public financing
Likelihood of success	2	Moderate likelihood of success due to limited commercial viability and since this is fairly new, limited records of success, replicability, or scalability in comparable contexts.
Total	9	

# 2.8 Detailed Screening

Questions	Score
Is there a positive record of implementation?	1
Will it generate, leverage, save, or realign a large volume of financial resources?	5
Will financing sources be mobilized in a compatible timeline with needs?	3
Will financing sources be stable and predictable	3
Do the persons or entities paying have a willingness and ability to pay or invest?	5
Are the financial risks adequately managed (e.g. Exchange rate, lack of investors, etc.)?	3
Are start-up costs onerous in comparison to the expected financial returns?	5
Does the solution improve incentives to manage biodiversity and ecosystems sustainably?	5
Will the financial resources remain targeted to biodiversity over time?	5
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	3
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural and gender equality)?	3
Have risks of significant unintended negative social consequences been anticipated and managed?	3
Will it be viewed as equitable and will there be fair access to the financial and biodiversity/ecosystem resources?	3
Is it backed by political will?	3
Have political risks been anticipated and managed?	3
Is buy-in among stakeholders (i.e. potential investors/decision makers, implementers and beneficiaries) sufficiently strong to counter potential opposition?	1
Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	3
Is it legally feasibly? How challenging will any legal requirements be?	1
Is it coherent with the institutional architecture, can synergies be achieved?	3
Total	5
	66

# 2.9 Technical proposal summary

Innovation challenge funds for biodiversity		
Rationale	and	Innovation challenge funds provide financial contributions to innovation
justification		projects on a competitive ad commercial basis. Innovation and
		biodiversity have the potential to be mutually beneficial. An innovation
		fund for biodiversity is a means of bridging these two – bring ideas from
		the private and non-government sector together to work together with
		public biodiversity custodians. Malaysia aspires to excel in Science and

	Technology Innovation to ensure a sustainable future. Funding will support that aspiration.
Design of solution	<ul> <li>Push for the biodiversity theme in the innovation challenge fund</li> <li>Create a platform for collaborators to work together</li> <li>Stakeholder consultation and inclusion</li> <li>Promote the fund to potential applicants and potential funders</li> </ul>
Strategies	<ul> <li>Review of all existing innovation funds in Malaysia</li> <li>Review the extent of biodiversity criteria in fund application</li> <li>Conduct a cost and benefit analysis</li> <li>Create a committee of experts</li> <li>Seek out partnerships and platforms</li> <li>Test out a pilot innovation fund for biodiversity</li> </ul>
Expected outcomes, financial and economic results	<ul> <li>socially worthwhile solutions and new services through co- partnership</li> <li>improved biodiversity status through private enterprise and fund activities of civil society and non-profit organisations, as well as academic research</li> <li>improved conditions for commercialisation of bio-d products</li> </ul>
Responsible parties and respective roles	Funders/Donors: Government, development partners, foundations, or members of the public Funding mechanism management: Fund manager, review panel, third party verifiers Beneficiaries: Research institutions, universities, corporations, SMEs, individuals
Clear timeline and milestones for implementation	<ul> <li>Review and preparatory work: RMK-11 (6 months)</li> <li>Pilot Innovation Fund with Biodiversity Theme: RMK-11 (1 year)</li> <li>Full scale Innovation Fund for Biodiversity: RMK-12 (yearly)</li> <li>Milestones: <ul> <li>Lab for biodiversity and technology experts to brainstorm potential challenges and solutions</li> <li>Form a committee of experts as the review panel</li> <li>Seek out partnerships and platforms for sustainability</li> </ul> </li> </ul>

# 2.10 References

Bath University (2017). Challenge Funds in International Development.

Joppa (2015). Technology for nature conservation: An industry perspective. Available at: <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4623870/</u>, Accessed on: 18 August 2018

Ministry of Science, Technology and Innovation (2016). National Policy on Science, Technology and Innovation. Available at: <u>https://mastic.mestecc.gov.my/en/sti/kandungan-sti/row/sti-policies/national-science-technology-and-innovation-policy</u>, Accessed on: 18 August 2018

Ministry of Science, Technology and Innovation (2017). InnoFund Guidelines for Applicants. Available at:

https://edana.mestecc.gov.my/edana/frontend/web/guidelines/innofundAugust2017.pdf, Accessed on: 18 August 2018.

United Nations Development Programme (2018). Financing Solutions for Sustainable Development.

# 3 Coordinating NCTF and private trust funds in biodiversity spending

#### **3.1** Rationale and justification

#### 3.1.1 Why this solution?

Trust funds are important supplementing sources of biodiversity financing in Malaysia. This includes not only government trust funds such as the National Conservation Trust Fund (NCTF) and the Marine Reserve and Parks Trust Fund (MRPF), but also private trust funds such as Yayasan Sime Darby and Yayasan Hasanah. Based on the BER, these four examples jointly spend RM 25 million a year on biodiversity-related activities albeit with different spending priorities. This amount is likely to be larger if other trust funds or larger and longer-termed CSR programmes were included. Coordinating these actors' spending would be result in more effective financing.

Aligning financing efforts towards achieving the NPBD is a win-win for government and private trust funds who both want to achieve the most impact for their investments. Positioning NCTF to fill in the biodiversity needs that garner less private sector interest will ensure that financing is better spread across biodiversity goals, taking into consideration also that certain activities that are more suitably financed by a government trust fund. Positioning against private trust funds is likely to be easier as they are more likely to have long-term funding strategies and priorities compared to CSR programmes that are ad-hoc. Private trusts are more likely to be interested in NCTF's positioning and submitting data using the BIOFIN methodology to access the information.

The National Conservation Trust Fund for Natural Resources (NCTF) was established four years ago to carry out activities related to conservation efforts such as communication, education and public awareness, research and development, management, protection and climate change mitigation and adaptation. A trust fund consists of a variety of assets managed by trustees on behalf of the grantor to provide benefits to beneficiaries. They are vehicles to collect and allocate financial resources for specific purposes and typically disburse funds through grants.

UNDP is supporting NRE in coming up with a strategic plan and financial sustainability strategy for the NCTF. Among the key issues being addressed are, although the NCTF can receive multiple sources of funding according to Section 10 of the Financial Procedures Act (FPA), it is still constrained, especially when receiving funds from international or multilateral partners due to our existing governmental fiscal arrangement. The review is currently examining whether the funds can be migrated to a more flexible governance structure.

#### **3.1.2** Biodiversity and the NPBD

Target 17 focuses on the sustainable financing of biodiversity related activities. Specifically, Policy Action 17.2 focuses on scaling up the National Conservation Trust Fund. While this is currently being carried out by the Ministry of Natural Resources and the Environment, with

the support of the Protected Area Financing project, emphasis needs to be placed also on the coordination of the NCTF with other trust funds in a transparent database.

# 3.2 Design of solution

# 3.2.1 How does it work?

In this solution, the NCTF strategically positions itself to fund biodiversity-related activities that attract less attention from private trust funds. The BIOFIN methodology is used to collect information about national biodiversity financing needs and past expenditure patterns. The NCTF shares this information periodically with other public and private trusts to encourage better streamlining of funds and to facilitate identification of partners and beneficiaries. In return, private trusts periodically submit their biodiversity expenditure data to NCTF.

This issue of coordinating trust funds stems from the idea of information sharing. How do we know which areas of biodiversity conservation need money, how is that priority determined, in what sector, under which categories? The mandates and priorities of trust funds are determined by their trustees. In addition, if information, and also the mandates and priorities of trust funds was shared and coordinated, aspects that would be otherwise underfunded or left out could be highlighted and covered. For private trusts, these are dependent on their trustees' priorities and impact directions. For the NCTF, since the NCTF is a public trust fund, and the government determines its mandates and priorities, it would be feasible to justify that it could cover the biodiversity priority areas that are not prioritised by private funds.

# 3.2.2 Risks and mitigation measures

The NCTF fund has set mechanisms of receiving and disbursing funds and set focal conservation areas. However, these limitations need to be amended to allow for the NCTF to be able to cover priority areas that the other trust funds do not. If trust funds are coordinated to be able to share knowledge about their biodiversity funding areas, but the NCTF cannot manage to change its restrictions soon enough to fund beyond its existing criteria, this would hinder the efficiency of the coordination.

If institutional change for funds is being sought out, this is unlikely to happen. MOF has put in measures to ensure that funds are not misused. This is one of the main reasons why trust funds do not have fund managers. Thus, owners of trust funds are reluctant to go beyond mandate. How do we pool information together to let people know where are the funding needs and gaps by different sectors, continue to improve this information for funders to recognise needs and channel funds there.

Additionally, the financial priorities of various trust funds may not be entirely planned or known in advance. In events like these, the NCTF and the coordinating body would be able to play the role of capacity building for these funds in the long run. However, the NCTF could first engage larger trust funds with stronger governance mechanisms. Upon the

establishment of a better coordination mechanism, the NCTF can then move on the recruit other funds into this arrangement.

Coordination may also be difficult, and needs a coordinating team, a trust fund coordinator and manager. Risks would be, this information may be deemed confidential, or only able to be circulated within one's own organisation or sector. As such, the coordination may require more flexibility that exists, and may face transparency barriers, especially if the information needs to be shared regularly beyond the government sector.

In addition, if coordination priorities that there is little or no overlap in priorities between different trust funds, this may limit the funding options for potential applicants and result in a reduction in funding for biodiversity priorities, instead. With adequate planning and coordination, this issue can be avoided.

# 3.3 Strategies

# 3.3.1 Planning

Gather information on the review of the NCTF that is ongoing to see how best to strategise and position this finance solution. Review existing trust funds in Malaysia, their priorities, criteria, reporting and management methods. This includes determining what information is useful and can be shared to assist this coordination between trust funds.

Draft a short- and long-term plan. The NCTF should first coordinate with large private trust funds such as Yayasan Hasanah and Yayasan Sime Darby that already spend on biodiversity. These should serve as a pilot study before moving on to recruit another 3 private trust funds or large CSR programmes, and 2 public trust funds into this coordinating arrangement.

Submit paper to upper management and parliament to determine whether biodiversity financing information is allowed to be shared beyond the public sector.

# 3.3.2 Implementation

Recruitment of potential public and private trust funds to be part of the coordinating platform for biodiversity priorities is essential for this solution to be adopted. The BIOFIN methodology also needs to be mainstream into the management of the NCTF and other trust funds. This would include training of the various trust funds in BIOFIN methodology to ease their biodiversity priorities and financial data reporting using a mutual methodology.

The capacity of the NCTF managing committee must also be strengthened to manage the coordination. In addition, monitoring of the effectiveness of the coordination must be carried out. This should lead to the development of an information sharing platform or tool between trust funds. This could be done through a bi-annual meeting to review trust fund coordination and biodiversity spending priorities. The results of that annual meeting could go into periodic reports that are shared among the participating trust funds.

#### 3.4 Expected outcomes, financial and economic results

This solution is meant to realign expenditures and deliver better in terms of meeting biodiversity needs. Once there is adequate coordination and communication between the different trust funds about respective biodiversity priorities, trust funds can strategise so as to ensure that funds will meet key priority biodiversity needs. This would also help avoid future costs because, if all trust funds are aligned, there would a stronger push for biodiversity related spending and priorities over those that might be harmful to biodiversity.

The NPBD and BIOFIN methodology are tools that enable the pooling of aggregated and disaggregated information to show where needs are. Needs are more than funds – this is a strain on EPU/MOF but private trust funds can complement the government's allocation. It would be worthwhile to know how much private sector can fund. Challenges might be in terms of coordination and the stability of flow.

#### 3.5 Responsible parties and respective roles

**Funding mechanism management: NCTF sub-committee, MOF, EPU, KATS** – These are key players in the funding mechanism of the NCTF. They play a role in determining the design of the fund, its role, reach and limitations. Specifically, KATS should lobby to expand the usage of the NCTF and the sharing of information between the NCTF and other trust funds.

**Other trust funds: Donors, private sector trust funds and foundations** – These other stakeholders are from other trust funds that would potentially submit their annual biodiversity pillars and projects funded to the NCTF.

#### 3.6 Timeline and milestones for implementation

#### Review and Preparatory work: RMK-11 (6 months)

- Gather information on the review of the NCTF that is ongoing
- Review information gathered by participating trust funds, their priorities, their criteria, their reporting methods, and determine what information is useful and can be shared
- Paper to upper management and parliament to determine whether biodiversity financing information is allowed to be shared beyond the public sectors
- Build capacity of NCTF managing committee to manage this additional role

#### Implementation: RMK-12 (1 year pilot, followed by long-term implementation)

- For the pilot, recruit two large private trust funds that have strong governance mechanisms first
- After reviewing the pilot, proceed to recruit other potential public and private trust funds to participate in this coordination mechanism for full scale implementation
- Mainstream BIOFIN methodology into the NCTF and other trust funds management
- Monitoring and evaluation

# 3.7 Rapid Screening

Criteria	Score	Justification
Impact on	4	This solution has a very high impact on biodiversity as the funds can
biodiversity		be better channelled where required most.
Financial	3	Potential to mobilize more effectively or save a high amount of
impact		resources.
Likelihood of	3	High likelihood of success. Sufficient political and social support. Just
success		need to be managed and can be scalable in comparable contexts.
Total	9	

# 3.8 Detailed Screening

Questions	Score
Is there a positive record of implementation?	3
Will it generate, leverage, save, or realign a large volume of financial resources?	5
Will financing sources be mobilized in a compatible timeline with needs?	3
Will financing sources be stable and predictable	5
Do the persons or entities paying have a willingness and ability to pay or invest?	3
Are the financial risks adequately managed (e.g. Exchange rate, lack of investors, etc.)?	5
Are start-up costs onerous in comparison to the expected financial returns?	5
Does the solution improve incentives to manage biodiversity and ecosystems sustainably?	5
Will the financial resources remain targeted to biodiversity over time?	5
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	1
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural)?	3
Would there be a positive impact on gender equality, especially regarding participation in design and implementation or access to opportunities and	3
benefits?	C
Have risks of significant unintended negative social consequences been anticipated and managed?	3
Will it be viewed as equitable and will there be fair access to the financial and biodiversity/ecosystem resources?	5
Is it backed by political will?	5
Have political risks been anticipated and managed?	5
Is buy-in among stakeholders (i.e. potential investors/decision makers,	
implementers and beneficiaries) sufficiently strong to counter potential opposition?	3
Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	5
Is it legally feasibly? How challenging will any legal requirements be?	5

# Is it coherent with the institutional architecture, can synergies be achieved?

# Total

5 **82** 

# 3.9 Technical proposal summary

Coordinating NCTF and private trust funds in biodiversity spend	ing
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Rationale and justification	NCTF was established to carry out activities related to conservation efforts, it consists of a variety of assets managed by trustees. UNDP is supporting NRE in coming up with a strategic plan and financial sustainability strategy for the NCTF. NCTF can receive multiple sources of funding according to Section 10 of the FPA, it is still constrained because of governance structures. Funds need to be migrated to a more flexible governance structure through better coordination. Trust funds are important supplementing sources of biodiversity financing in Malaysia. Target 17 of the NPBD focuses on the sustainable financing of biodiversity related activities.
Design of solution	<ul> <li>Strategically position NTCF to fund biodiversity-related activities that are lesser-funded by private trust funds</li> <li>Form coordinating team from relevant agencies</li> <li>collect information on biodiversity financing needs and past expenditure patterns</li> <li>Share information periodically with other public and private trusts to encourage better streamlining of fund</li> <li>Coordinate trust funds based on the information (which areas of biodiversity conservation, what is priority)</li> <li>Align financing efforts towards achieving the NPBD</li> </ul>
Strategies	<ul> <li>Gather information on the review of the NCTF</li> <li>Review all existing trust funds in Malaysia</li> <li>Report to upper management and parliament</li> <li>MOF to put in measures to ensure that funds are not misused</li> </ul>
Expected outcomes, financial and economic results	<ul> <li>realign expenditure, deliver better and avoid future cost</li> <li>better coordination between trust funds to cover all biodiversity priority areas</li> </ul>
Responsible parties and respective roles	<ul> <li>NCTF sub-committee, MOF, EPU, NRE</li> <li>Donors, private sector trust funds and foundations, NGOs, ILCs</li> </ul>
Clear timeline and milestones for implementation	<ul> <li>Review and Preparatory work: RMK-11 (6 months)</li> <li>Implementation: RMK-12 (1 year pilot, followed by long-term implementation)</li> <li>Milestones: <ul> <li>Gather information on the review of the NCTF that is on-going</li> <li>Determine information to be shared and key biodiversity priority areas Paper to upper management and parliament</li> <li>Recruit potential public and private trust</li> </ul> </li> </ul>

# 3.10 References

Ministry of Natural Resources and Environment (2015). National Conservation Trust Fund Guidelines. Available at: <u>http://www.kats.gov.my/ms-</u>

my/biodiversiti/nctf/Documents/NATIONAL%20CONSERVATION%20TRUST%20FUND%20AP PLICATION%20GUIDELINES.pdf#search=national%20conservation%20trust%20fund, Accessed on 14 August 2018.

# 4 Voluntary finance standards for finance sector

### 4.1 Rationale and justification

#### 4.1.1 Why this solution?

Voluntary standards for the finance sector are based on the realisation that financers can influence the reduction of adverse environmental and social impacts through introducing performance requirements on the activities they finance. These include standards, codes or principles that apply to internal operations, or financial instruments such as loans or bonds. These standards complement laws and regulations and are designed not to compromise market competition. Globally, a number of finance standards for sustainability have emerged such as the IFC Performance Standards<sup>17</sup> and most recently, the Principles for Positive Impact Finance (2017)<sup>18</sup>.

Mainstreaming of biodiversity in other sectors' activities can happen at a much larger scale through finance standards as market drivers push for increased biodiversity considerations. The costs would also have been shared or transferred to the applicant and the bank as they carry out due diligence, which would reduce the costs for the government. For example, the adoption of certifications or standards belonging to other sectors (e.g. MSPO, RSPO, MTC, FSC, MyGAP, MyOrganic, in bridging or syndicate loans) by financial institutions can spin off further investment, development and application of those standards as well. Potential spin off effects on biodiversity sector jobs (e.g. research, training, assessment experts, and consultancy for mitigation actions, certification and audits) and data collection on biodiversity expenditures by private sector can be more systematically documented.

Malaysia's finance sector has also adopted sustainability related developments such as FTSE4Good Bursa Malaysia Index (2014) the Sustainable and Responsible Investment (SRI) Sukuk Framework (2014), the Sustainability Amendments by Bursa Malaysia, Green Sukuk bonds in Islamic Finance (2017) and ASEAN Green Bond Forum (2017). Currently, local banks with international parent companies such as HSBC or Citi already adopt sustainable financial standards. Presently, the Islamic finance arm of Bank Negara Malaysia (BNM) together with 9 partner Islamic banks are developing a set of Value-Based Intermediation (VBI) principles that would encourage the adoption of social and environmental standards in Islamic finance. These can serve as a market impetus to propel other banks to adopt the standards.

# 4.1.2 Biodiversity and the NPBD

The Malaysian financial sector has the opportunity to set the standards for biodiversity performance and enhance its competitiveness in terms of responsible financing which is growing in interest globally. Ultimately, our global biodiversity needs must be supported by

<sup>&</sup>lt;sup>17</sup> IFC's Environmental and Social Performance Standards define IFC clients' responsibilities for managing their environmental and social risk (IFC, 2018)

<sup>&</sup>lt;sup>18</sup> The Principles for Positive Impact Finance are a direct response to the challenge of financing the UN's Sustainable Development Goals. To address the SDG financing gap, an annual US\$2.5 trillion is needed (UNEP-FI, 2017)

a combination of both public and private funding. This is represented in Targets 2 and 17, increase engagement with the private sector as well as increase funding and funding methods for biodiversity, respectively.

# 4.2 Design of solution

# 4.2.1 How does it work?

Biodiversity is included as a consideration in the environment performance requirements of the Value Based Intermediation Guiding Principles adopted by Malaysian banks. Meaning, when borrowers apply for a loan or a bond from a financial institution, they are required to meet biodiversity requirements in order to receive full payments for their loans or bonds. If they do not meet the requirements completely, but still wish to borrow, they may be given time to meet these requirements and reapply.

To facilitate this process for borrowers, assessment methods, criteria or certifications for biodiversity performance are developed to equip bankers with the knowledge and tools to assess biodiversity impacts of financed projects. These can be standards and evaluations adopted from other sectors (e.g. MTC, FSC, MSPO, RSPO, MyGAP, MyORGANIC, etc.), or adapted from global finance standards (e.g. the IFC has a specific performance standard related to biodiversity). Additionally, if the BIOFIN FNA methodology is adapted into the application process, financial institutions can require applicants to define biodiversity outcomes in relation to the NPBD. These would enable easier means of monitoring and evaluation and reduce transaction costs. For investors, the checks and balances described would contribute towards reduced risk and perhaps also higher returns.

# 4.2.2 Risks and mitigation measures

While competitive pressures are effective in encouraging financial institutions to adopt these standards, there is a risk that they may distract from the actual value of adding biodiversity and environmental and social criteria into financial mechanisms. Additionally, greenwashing<sup>19</sup> may occur where financial institutions are pressured to adopt standards but continue business as usual due to the voluntary and vague nature of some standards. This is where monitoring and evaluation as described above plays a crucial role in ensuring effective performance and impact. This could be done via a grievance mechanism, where other stakeholders could pose their grievances with regards to the project or actions or impact of the recipient. This could be a form of citizen reporting, or crowd policing. Different types of monitoring and evaluation needs to be carried out for different types of institutions – large companies, SMEs, intergovernmental projects.

The voluntary nature of the scheme, in that financial institutions can choose to adopt these standards, is also a risk, as it is ultimately up to the financial sector players to adopt or not. There will also be risks of losing customers due to the estimated higher transactional costs of financial instruments that meet voluntary finance standards for biodiversity. This would

<sup>&</sup>lt;sup>19</sup> When an organization uses misleading advertising and unsubstantiated claims to promote environmental initiatives or images, but actually operates in a way that is damaging to the environment (UNDP, 2017)

create a converse effect where borrowers would gravitate towards loans and bonds that do not have to meet biodiversity criteria as they have lower transactional costs and thus rates of return. But there is no guarantee that this solution will gain the buy-in of the majority of the finance sector in Malaysia.

### 4.3 Strategies

# 4.3.1 Planning

Review information on Bank Negara Malaysia's Islamic Finance VBI efforts that are currently ongoing – This review could be used as a base upon which to plan how to include biodiversity criteria in these standards. Consultations with biodiversity technical experts are also needed to kick start the planning process to include biodiversity criteria into standards.

A policy, legal and institutional review at both the national and local levels should also be carried out to neutralise risks. If a borrower defaults or does not meet certain standards in the future, it would be useful to have identified the regulatory mechanisms that can monitor biodiversity performance and hold the borrowers accountable. It is also essential to assess local capacity on how to manage risks and issues, and to identify who will carry out the enforcement, assessment and verification, as borrowers' activities are most likely to be carried out at the local or municipal level.

# 4.3.2 Implementation

The process of implementation of voluntary finance standards for biodiversity must be a consultative one from the very beginning. It is critical to include experts in voluntary standards, members of the financial sector, but also technical experts and specialists in the relevant biodiversity fields, and other stakeholders such as governments, accreditation bodies, NGOs. The buy-in of these stakeholders are crucial for the voluntary finance scheme to be successful. Engagement, promotion and consensus-building activities are key.

Consistent monitoring and evaluation is needed to help inform the long term plan for incorporating voluntary finance standards in the finance sector. This long-term plan can be devised together with BNM's Islamic Finance VBI to examine this can be expanded to other segments of the finance sector.

#### 4.4 Expected outcomes, financial and economic results

The underlying economic concept is a reduction of negative biodiversity impact through careful financing of projects that have high biodiversity and environmental risks. This is a move towards ensuring that major financiers of projects adopt more responsible environmental behaviour through standards; and thereafter influence other members of the financial sector through leveraging on their competitive advantage, reputational benefit and genuine interest in positive biodiversity impact financing of projects and industries.

The adoption of voluntary finance standards can result in the increase in reputation and credibility of financial institutions in terms of environmental and biodiversity-oriented priorities. The competitive advantage, especially for environment and biodiversity-conscious

investors, will lead to more and more financial institutions adopting these standards, and avoid the future costs of projects that may negatively affect biodiversity.

In terms of biodiversity expenditure, this solution will realign expenditure from harmful activities to biodiversity friendly activities. This will not only avoid future costs but will also generate new revenue in terms of creating a new market for biodiversity conservation and sustainable use related activities, such as data collection, mitigation using ecological investments and trend-setting.

# 4.5 Responsible parties and respective roles

**Financial players: Financial sector, investors, issuers, borrowers** – these are the primary responsible parties involved in the implementation of standards for the finance sector. The buy-in from both investors and borrowers and other enablers in the finance sector is crucial to enable biodiversity related standards to become part of financial requirements.

Monitoring and evaluation: Local governments, external auditors, standard-setting organizations, accreditation organizations, credit rating agencies, certification agencies, credit guarantors – these together comprise the checks and balance mechanism for these standards. As the standards are voluntary, it is essential that performance and impact be monitored and evaluated to ensure effectiveness.

# 4.6 Timeline and milestones for implementation

### Review and Preparatory work: RMK-11 (1 year)

- Review Bank Negara Malaysia's Islamic Finance VBI process
- Consultations with biodiversity technical experts
- Policy, legal and institutional review at both the national and local levels
- Assess local capacity on how to manage risks and issues
- Examine how the VBI can be expanded to other segments of the finance sector

# Implementation: RMK-12 (1 year pilot, followed by long-term implementation)

- Promote the awareness and interest of all relevant stakeholders of VBI
- Monitoring and evaluation

Criteria	Score	Justification
Impact on	4	This solution has a very high impact on biodiversity as projects will
biodiversity		need to justify impact on biodiversity.
Financial	3	Potential to mobilize a high amount of resources compared to
impact		existing expenditures or needs as most projects are funded not
		through loans.
Likelihood of	2	Moderate likelihood of success due to limited commercial viability
success		and since this is fairly new, limited records of success, replicability, or
		scalability in comparable contexts.
Total	9	

#### 4.7 Rapid Screening

4.8 Detailed Screening	
Questions Is there a positive record of implementation? Will it generate, leverage, save, or realign a large volume of financial resources?	Score 1 3
Will financing sources be mobilized in a compatible timeline with needs?	3
Will financing sources be stable and predictable	3
Do the persons or entities paying have a willingness and ability to pay or invest?	5
Are the financial risks adequately managed (e.g. Exchange rate, lack of investors, etc.)?	3
Are start-up costs onerous in comparison to the expected financial returns?	5
Does the solution improve incentives to manage biodiversity and ecosystems sustainably?	5
Will the financial resources remain targeted to biodiversity over time?	5
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	3
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural)?	1
Would there be a positive impact on gender equality, especially regarding participation in design and implementation or access to opportunities and benefits?	3
Have risks of significant unintended negative social consequences been anticipate and managed?	d 3
Will it be viewed as equitable and will there be fair access to the financial and biodiversity/ecosystem resources?	3
Is it backed by political will?	3
Have political risks been anticipated and managed?	3
Is buy-in among stakeholders (i.e. potential investors/decision makers, implementers and beneficiaries) sufficiently strong to counter potential opposition?	5
Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	3
Is it legally feasibly? How challenging will any legal requirements be?	5
Is it coherent with the institutional architecture, can synergies be achieved?	3
Total	68

# 4.9 Technical proposal summary

# Voluntary finance standards for finance sector

Rationale and	Voluntary standards for the finance sector are based on the realisation
justification	that financers can influence the reduction of adverse environmental and
	social impacts. Globally, a number of sustainable finance standards have
	emerged such as the IFC Performance Standards and the Principles for

Design of solution	Positive Impact Finance (2017). In Malaysia, it is in line with the 11th Malaysia Plan (2016-2020)'s Strategy Green Growth Strategy. BNM with 9 partner Islamic banks are working on a VBI system. Some banks such as HSBC or Citi already adopt sustainable financial standards. Bank Negara Malaysia would further push other banks to adopt the standards too. Biodiversity is included as a consideration in the environment performance requirements of the Value Based Intermediation Guiding Principles adopted by Malaysian banks. Meaning, when borrowers seek out a loan or a bond from a financial institution, they are required to meet biodiversity requirements in order to receive full payments for
	their loans or bonds. Develop assessment methods, criteria or certifications for biodiversity performance are developed to equip bankers with the knowledge and tools to assess biodiversity impacts of financed projects – either adopted from other sectors or adapted from global finance standards. The adoption of BIOFIN FNA methodology into the application process can require applicants to define biodiversity outcomes in relation to the NPBD. These would enable easier means of monitoring and evaluation and reduce transaction costs.
Strategies	<ul> <li>Gather information on BNM's Islamic Finance VBI efforts and consult with biodiversity technical experts to formulate a plan to integrate biodiversity standards</li> <li>Understand the policy, legal and institutional landscape at the national, state and local levels</li> <li>Sensitise relevant financial stakeholders</li> <li>Monitoring and evaluation to help inform long term plan</li> <li>Examine how VBI can be expanded to other finance sector segments</li> </ul>
Expected outcomes, financial and economic results	<ul> <li>Reduction of environmental or socially impact through financing of projects that have high environmental or socially risks; and a move towards ensuring that major financiers of projects adopt more responsible environmental behaviour through standards</li> <li>The adoption of voluntary finance standards can result in the increase in reputation and credibility of financial institutions in terms of environmental and biodiversity-oriented priorities – a competitive advantage</li> <li>realign expenditure from harmful activities to biodiversity friendly activities, avoid future costs, and generate new revenue in terms of creating a new market for biodiversity conservation and sustainable use related activities, such as data collection, mitigation using ecological investments and trend-setting</li> </ul>
Responsible	<ul> <li>Financial players: Financial sector, investors, issuers, borrowers</li> <li>Monitoring and evaluation: Local governments, external auditors</li> </ul>
respective roles	standard-setting organizations, accreditation organizations, credit rating agencies, certification agencies, credit guarantors
Clear timeline	Review and Preparatory work: RMK-11 (1 year)
and milestones	Keview Bank Negara Malaysia's Islamic Finance VBI process     Consultations with biodiversity technical events
101	<ul> <li>Consultations with biodiversity technical experts</li> </ul>

implementation	<ul> <li>Policy, legal and institutional review at both the national and local levels</li> <li>Assess local capacity on how to manage risks and issues</li> </ul>
	<ul> <li>Implementation: RMK-12 (1 year pilot, followed by long-term implementation)</li> <li>Promote the awareness and interest of all relevant stakeholders of VBI</li> <li>Monitoring and evaluation</li> <li>Examine how the VBI can be expanded to other segments of the finance sector</li> </ul>

# 4.10 References

Bank Negara Malaysia (2017). Strategy Paper on Value-Based Intermediation.

International Finance Corporation (2012). Performance Standards on Environmental and Social Sustainability.

United Nations Environment – Finance Initiative (2017). The Principles for Positive Impact Financing.

# 5 Include biodiversity criteria in Government Green Procurement (GGP)

#### 5.1 Rationale and justification

#### 5.1.1 Why this solution?

In 2016, the government final consumption was estimated at RM154 billion or about 12.6% of GDP<sup>20</sup>, and estimated to grow at 3.7% p.a. till 2020<sup>21</sup>. The National Green Technology Policy (NGTP) adopted Government Green Procurement (GGP) as a potential field for encouraging green investment and influencing behavioural change. GGP seeks to encourage the procurement of products, services and works that take into account environmental criteria and standards for protecting the environment and natural resources and minimise or mitigate the negative effects of human activities. The implementation of GGP in 12 ministries and their agencies in 2016 has resulted in a cumulative value of GGP amounting to RM482 Million, with cumulative CO2 emission reductions of 100.431 ktonnes. The long-term plan for GGP is targeting nationwide implementation at all levels of government – federal, state and local government by 2020. As government consumption is expected to reach RM178 billion by 2020, it is expected to have a significant impact on the supply side of the economy.

The Malaysian government can and is playing a dual role in the GGP markets: Firstly, as a consumer and purchasers of environmentally friendly products and services and secondly, as a regulator of the market's practices. The standards and certifications, monitoring and evaluation developed through GGP, and also the pressure on the private sector to provide competition, supply and demand, can act as the basis for creating a market for biodiversity.

#### 5.1.2 Biodiversity and the NPBD

GGP efforts are specifically indicated in Action 3.6 (i.e. Target 3) which seeks to promote sustainable consumption and production (SCP) of which government green procurement (GGP) is at the heart of SCP. The more broadly framed Target 3 seeks to mainstream biodiversity conservation into national development planning and sectoral policies and plans. It is important to note that the EPU's Green Growth strategy as one of the strategic thrust and SCP has also been identified as one of the focus areas of that thrust<sup>22</sup>. A sub-area of that focus is the creation of green markets.

#### 5.2 Design of solution

#### 5.2.1 How does it work?

In the RMK-11, it was stated that GGP will be made mandatory for all government ministries and agencies. GGP is expected to create the demand for green products and services, encouraging industries to raise the standard and quality of their products to meet green requirements. GGP will complement the existing eco-labelling scheme of green product

<sup>&</sup>lt;sup>20</sup> In current price, estimated from DOSM's National Accounts timeseries data.

<sup>&</sup>lt;sup>21</sup> Economic Planning Unit (EPU) (2016). Eleventh Malaysia Plan, Appendix.

<sup>&</sup>lt;sup>22</sup> EPU (2016). 11MP, Chapter 6.

certification. By 2020, at least 20% of GGP will be green. Concurrently, the private sector will be encouraged to emulate the government's efforts in green procurement<sup>23</sup>.

In 2014, the federal government already introduced tax incentives to boost the green technology industry in line with the GGP. The incentives include Green Investment Tax Allowance (GITA) for the purchase of green technology assets, equipment or for undertaking green technology projects, and Green Income Tax Exemption (GITE) for green technology service providers.

The GITA provides an allowance 100% on qualifying capital expenditure from the date the first qualifying capital expenditure is incurred (after 25 October 2013) until the assessment year of 2020. For the GITE, 100% of statutory income from the year of assessment 2013 until 2020 (max. 5 years from date of commencement) is exempted for qualifying companies (Malaysia Green Technology Corporation, 2016).

In order to qualify for these exemptions, the equipment or assets used by these providers or purchasers must meet the MyHIJAU Mark criteria. The MyHIJAU Mark aims to promote the sourcing and purchasing of green products and services in Malaysia through recognition and registration of products adopting green technology or for companies providing green technology services. The criteria for products and services to qualify under MyHIJAU Mark currently focuses on the minimisation of environmental degradation and greenhouse gas emissions, conservation of natural resources and the usage of renewable energy in the procurement process. At present, all ministries are required to submit Green Procurement plans and reports to be monitored and evaluated by the Ministry of Finance (MOF).

This solution proposes that additional biodiversity-related specifications could be added to the MyHIJAU criteria, and also to GGP reporting and evaluation at all stages of the procurement process that emphasises the alignment of the product and services procured with biodiversity conservation and sustainable use. From the identification of needs, the preparation of technical specifications, evaluation of offers, the supplier selection to the contract management (KATS, 2018).

# 5.2.2 Risks and mitigation measures

One of the risks of this strategy is the pace in which government will implement the GGP as this is already policy in the RMK-11, and as stated, the government will be the main driver for its implementation. Additionally, the GGP is also supported and perhaps even stimulated by tax incentives, which are effective until 2020. Hence, both the public and private sectors are covered at least until 2020. In addition, the certification aspect of GGP has also been initiated via the MyHIJAU Mark criteria.

The first risk is the capacity of the government to follow through with the RMK-11 policy. The new government, formed on 9<sup>th</sup> May 2018, has raised concerns of the level of debt and the government's capacity to follow through with past policies. As of August 2018, there has not been any announcement of new policy change in this area.

<sup>&</sup>lt;sup>23</sup> EPU (2016). 11MP, Chapter 6.

The associated risk is a higher cost for procurement for GGP, especially due to the additional transactional costs – creating new biodiversity related criteria, strategizing for behavioural change, and also monitoring and evaluation. The long-term benefits of meeting biodiversity criteria must also be communicated to relevant stakeholders.

Even if this policy risk is averted, the GGP strategy envisages fast growth of industries and development of green markets. Between 2015 and 2016, the number of products with MyHIJAU certification rose from 200 to over 1,000, the capacity issue will be the limiting factor. As of 2016, the GGP is only RM428 million as compared to the final government consumption of RM154 billion. The issue is the capacity of both government and private sector to meet the anticipated demand. For instance, can the capacity of the Malaysian Green Technology Corporation (MGTC) meet with the anticipated growth for green product certification?

The associated risk that relates to this initiative is whether the level of performance and impact that the inclusion of biodiversity criteria into the GGP can be realised. The impacts of biodiversity are challenging to measure thus biodiversity and green procurement knowledge experts must come together to map out the specifications to be included into the plans and reports to assess ministries' performance and impact. Investments must also be pumped into monitoring and evaluation of whether products and services meet the biodiversity criteria.

# 5.3 Strategies

#### 5.3.1 Planning

A review should be carried out to evaluate the success of the existing GGP criteria – for both MyHIJAU and tax exemptions – from its initiation until its current status. Learning from the successes and challenges of the GGP, the costs and benefits of including biodiversity criteria into GGP should be evaluated compared to the review.

Checks and balances must be prioritised if this solution is to work. How would it be best to include biodiversity into GGP criteria – would it be in the MyHIJAU criteria, in the tax exemption criteria or in the procurement cycle? There is also a need to identify the relevant parties that would be able to carry out enforcement, monitoring and verifications. Where necessary, capacity building can be carried out.

Aside from this, awareness raising would be key to gain the buy-in of relevant parties to government procurement that incorporates biodiversity criteria. The link between green procurement, technology and biodiversity also needs to be strengthened. This would determine the level of buy-in from all stakeholders.

# 5.3.2 Implementation

Pilot test this inclusion of the biodiversity criteria into the various elements of the GGP first within a targeted field. A strategic sector to pilot this new criteria is in landscaping, urban parks, and riverbank development projects as the market and its actors are relatively well established.

Eventually, biodiversity criteria should be included into GGP's long-term plan, and also be implemented in government procurement at all levels of government – federal, state and local government. Monitoring and evaluation of this pilot test should inform the long-term plan to include biodiversity criteria into the GGP.

# 5.4 Expected outcomes, financial and economic results

The inclusion of biodiversity criteria in the GGP is meant to encourage industries to consider biodiversity in all aspects of their procurement. If procurement cycles consider biodiversity in their supply chain, this would realign expenditure away from supply chain and procurement activities that may be harmful to biodiversity to biodiversity-friendly expenditure, and also avoid future costs incurred from activities that may be harmful to biodiversity.

The government-driven push for green procurement has thus far encouraged local industries to develop green products and services. This will ideally catalyse the greening of the entire supply chain, and eventually consumption patterns in both the public and private sector. By including biodiversity criteria into GGP, local industries, supply chains and consumers would not only be aware of and actively work towards providing and purchasing products that take into consideration minimisation of environmental degradation and greenhouse gas emissions, conservation of natural resources and the usage of renewable energy, but also products that provide positive or neutral biodiversity impacts.

#### 5.5 Responsible parties and respective roles

**Supply chain: Malaysian Green Tech Corporation, all government ministries and agencies, local industries, suppliers, consumers** – These are the targeted participants of the GGP market as purchasers and providers of biodiversity and environmentally friendly products and services

**Checks and balances: Ministry of Finance, technical advisors, standards accreditors, assessors of biodiversity impact** – These players create the regulatory environment for this solution and are essential to hold the abovementioned stakeholders in check.

#### 5.6 Timeline and milestones for implementation

#### Review and preparatory work: RMK-11 (1 year)

- Review of the existing GGP criteria and implementation thus far
- Review of best options to include biodiversity criteria into GGP cycle
- Build capacity for growing GGP but also checks and balances
- Promote GGP concept among industries

# Pilot implementation: RMK-12 (2 years)

- Target specific sectors to pilot biodiversity criteria in GGP
- Monitoring and evaluation

# Full-scale implementation: RMK-12 (ongoing)

- Inclusion of biodiversity criteria into GGP's long-term plan, implemented in all levels of government
- Monitoring and evaluation

# 5.7 Rapid Screening

Criteria	Score	Justification
Impact on	3	This solution has a very high impact on biodiversity due to large
biodiversity		scale of government procurements.
Financial	3	Potential to mobilize more effectively or save a high amount of
impact		resources.
Likelihood of	4	High likelihood of success. Sufficient political and social support.
success		Can easily be scalable to private sector with government incentives
Total	10	Total = Impact

#### 5.8 Detailed Screening

Questions	Score
Is there a positive record of implementation?	5
Will it generate, leverage, save, or realign a large volume of financial resources?	3
Will financing sources be mobilized in a compatible timeline with needs?	3
Will financing sources be stable and predictable	3
Do the persons or entities paying have a willingness and ability to pay or invest?	5
Are the financial risks adequately managed (e.g. Exchange rate, lack of investors, etc.)?	5
Are start-up costs onerous in comparison to the expected financial returns?	1
Does the solution improve incentives to manage biodiversity and ecosystems sustainably?	3
Will the financial resources remain targeted to biodiversity over time?	5
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	3
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural)?	3
Would there be a positive impact on gender equality, especially regarding	
participation in design and implementation or access to opportunities and benefits?	3
Have risks of significant unintended negative social consequences been anticipated and managed?	1

Will it be viewed as equitable and will there be fair access to the financial and biodiversity/ecosystem resources?	5
Is it backed by political will?	5
Have political risks been anticipated and managed?	5
Is buy-in among stakeholders (i.e. potential investors/decision makers,	
implementers and beneficiaries) sufficiently strong to counter potential opposition?	3
Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	5
Is it legally feasibly? How challenging will any legal requirements be?	5
Is it coherent with the institutional architecture, can synergies be achieved?	3
Total	74

5.9	Technical	proposal	summary
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# Include biodiversity criteria in GGP

Rationale and justification	Government consumption represents about 12% of GDP. GGP is the current policy: boost green investment and create green markets. GGP is part of government procurement of products, services and works that take into account environmental criteria and standards. GGP will be 20% of government procurement by 2020. The GGP pilot at the 12 ministries and their agencies in 2016 have resulted to cumulative value of GGP amounting RM482 Million. GGP will stimulate the private sector to provide and supply green products, create a market for biodiversity. GGP efforts align directly with NPBD Target 3.
Design of solution	Biodiversity-related specification must be added to MyHIJAU criteria, and to roll out the certification as soon as possible.
Strategies	<ul> <li>Evaluate the success of the existing GGP criteria – for both MyHIJAU and tax exemptions – from its initiation until its current status.</li> <li>Identify regulatory environment and stakeholders, capacity building</li> <li>Awareness raising to ensure buy-in of relevant parties</li> <li>Include biodiversity criteria into GGP long term plan</li> <li>Monitor impact of GGP on natural resources, biodiversity</li> </ul>
Expected outcomes, financial and economic results	Expenditure is realigned away from supply chain and procurement activities that may be harmful to biodiversity to biodiversity-friendly expenditure, and also avoid future costs incurred from activities that may be harmful to biodiversity.
	Local industries, supply chains and consumers would not only be aware of and actively work towards providing and purchasing products that take into consideration minimisation of environmental degradation and greenhouse gas emissions, conservation of natural resources and the

	usage of renewable energy, but also products that provide positive or neutral biodiversity impacts.	
Responsible parties and respective roles	Supply chain: MGTC, all participating government ministries and agencies, local industries, suppliers, consumers Checks and balances: Ministry of Finance, technical advisors, standards accreditors, assessors of biodiversity impact	
Clear timeline and milestones for implementation	<ul> <li>Review and preparatory work: RMK-11 (1 year)</li> <li>Review of the existing GGP criteria and implementation thus far</li> <li>Review of best options to include biodiversity criteria into GGP cycle</li> <li>Build capacity for GGP but also checks and balances</li> <li>Awareness raising to gain buy-in of relevant parties</li> </ul> Pilot implementation: RMK-12 (2 years) <ul> <li>Target specific sectors to pilot biodiversity criteria in GGP</li> <li>Monitoring and evaluation</li> </ul> Full-scale implementation <ul> <li>Include biodiversity criteria into GGP's long term plan,</li> </ul>	
	<ul> <li>Monitoring and evaluation</li> </ul>	

#### 5.10 References

Biodiversity and Forestry Management Division, Ministry of Water, Land and Natural Resources (2018). Responses to questions on finance solutions.

Department of Statistics Malaysia (2018). National Accounts, time series data. Available at: (<u>https://www.dosm.gov.my/v1/index.php?r=column/ctimeseries&menu\_id=NHJlaGc2Rlg4Z</u>XIGTjh1SU1kaWY5UT09), accessed on 22 August 2018.

Economic Planning Unit (2016). Eleventh Malaysia Plan 2016-2020. Available at: <u>http://www.epu.gov.my/sites/default/files.pdf</u>, accessed on 22 August 2018.

Malaysia Green Tech Corporation (2016). Guidelines for Green Technology Tax Incentive. Available at: <u>https://www.myhijau.my/wp-content/uploads/2017/05/Guidelines-for-Green-Technology-Tax-Incentive\_Latest-27June2016.pdf</u>, accessed on 17 August 2018.

Sustainable Consumption and Production Malaysia (2015). Government Green Procurement (GGP) Long-term Action Plan 2016-2030. Available at: <u>http://epsmg.jkr.gov.my/images/6/6a/Draf Pelan Tindakan Jangka Panjang GGP MOF.pd</u> <u>f</u>, accessed on 17 August 2018.

#### 6 Ecological Fiscal Transfers for Biodiversity Conservation

#### 6.1 Rationale and justification

#### 6.1.1 Why this solution?

The Federal Constitution of Malaysia defines the powers of the federal and state governments whereby the power over land and other matters, as listed in the Ninth Schedule, is the prerogative of the latter. Under the Schedule, states have jurisdiction over land, agriculture, forest, water, turtles and riverine fisheries. Under this Schedule, concurrent responsibilities are defined and that includes wildlife, national parks, agriculture and forestry research. In that regard, biodiversity which is a special character of forests, rivers and marine areas would fall under state jurisdiction (as defined by Articles 74 and 77)<sup>24</sup>.

In the Federal Constitution, it states that matters under states are entitled to revenues that are derived from matters under their jurisdiction. In addition, federal government will give to each state a grant that is based on population (capitation) and for road maintenance.

Thus, the states will raise revenues to finance their development and operations, and the current transfer of funds from federal to state are limited to the capitation grant and road grant. Hence, with respect to the subject of this project, states raise revenues from extractive activities such as logging, mining, quarrying, water, and in the process, damage, degrade and undermine the biodiversity value of the forest, rivers and lakes. There are no provisions for federal transfers of funds for biodiversity conservation.

The other reason is related to development. Upstream, logging, deforestation for agriculture and opening up forests to raise finances for the state also increases the risk of flooding downstream. Large expenditures are needed for flood abatement projects (by federal government) which also undermines economic activities as well as development in the states. Another reason is that with more and more urban development, there is an increasing dependency of some states on water from other states. States with the water catchments want revenue from logging but that may undermine water catchments and water resources. The neighbouring state is concerned that their water security is affected. The federal government needs to step in to deal with such inter-state matters.

Given that biodiversity and ecosystem services produce positive externalities beyond the boundaries of a state, there is a strong and compelling case for offering a fiscal incentive to states for the conservation of their natural forest and river systems.

#### 6.1.2 Biodiversity and the NPBD

Target 17 of the NPBD focuses on generating new, sustainable funds for the conservation and sustainable use of biodiversity. Ecological fiscal transfers could be an effective way of

<sup>&</sup>lt;sup>24</sup> Government of Malaysia. Federal Constitution, Government Printers.

ensuring the state, that has jurisdictional power over land and natural resources, is compensated for the opportunity cost and potential loss of logging royalties. This solution meets Target 3, the mainstreaming of biodiversity conservation into national and sectoral policies and plans.

The ecological indices that prioritises quality of land and natural resources manages also highlights the financial needs of Target 6, 7 and 8 in the NPBD that focus on protected area conservation, protecting and rehabilitating vulnerable ecosystems, and restoring terrestrial and marine ecological corridors, respectively.

# 6.2 Design of solution

# 6.2.1 How does it work?

Fiscal transfers between federal to state governments need to be changed. The formulae need to add an ecological criteria to the capitation grant formulae to compensate states for their opportunity loss and provide a basis for proper management of their forest and ecological assets. This criteria should include not only the size of protected areas but also biodiversity richness that is the quality of ecosystems and the biodiversity of forests.

This proposal requires new financial resources because the issue at hand is opportunity cost forgone by one party that is balanced by benefits or externalities enjoyed by another. In essence, this solution requires changing the formulae of fiscal transfers from federal to states, and that requires a constitutional amendment.

Such a proposal may be regarded as preposterous. However, the new government formed in May 2018 has also stated that they are willing to share the country's wealth more equitably (see Pakatan Harapan Manifesto, Promise No.3) and to balance economic growth with environmental protection with the objective of sustainable development and sustainability (Promise No.39)<sup>25</sup>.

The first order of actions is to conduct a valuation study of the natural assets: map out their location, understand their ecological and economic linkages, assess the opportunity cost and estimate the economic value. States must be consulted as they are the ultimate authority over the resources. Propose options for a sustainable future that will benefit all stakeholders, now and into the future.

# 6.2.2 Risks and mitigation measures

One key risk is the competing interests among sectoral policies. The new federal and state governments' development priorities could pose resistance to the uptake of BIOFIN process into the national and sub-national planning and budgeting system. The fiscal difficulties of the federal government would likely see a postponement of this discussion far into the future.

In addition, the interest of the local authorities must be taken into account. Their capacity is limited but they have jurisdiction over land and natural resources. Local authorities can push

<sup>&</sup>lt;sup>25</sup> Pakatan Harapan (2018). Buku Harapan.

for land to be opened up for agriculture and development in order to generate more revenue. Here, ecological fiscal transfers must also act to incentivise local municipalities to prioritise biodiversity and land use protection.

Fiscal transfers should not focus only on land based ecological criteria. States may start more reclamation of coastal areas. Thus, ecological transfers must take into consideration the ecosystems and biodiversity in all habitats – terrestrial, marine and coastal.

# 6.3 Strategies

# 6.3.1 Planning

- Conduct technical studies to determine the economic values of biodiversity and ecological assets of the states. It should include an analysis of trends as well as institutional factors.
- Establish a national vision of sustainable development and sustainability that would benefit all stakeholders now and in the future through extensive consultation with state, and federal governments and other stakeholders.
- Prepare a paper on a new fiscal transfer formula that includes biodiversity and ecological values.
- Organise South-South learning exchange with countries of similar constitutional and governance structures on best practices and lessons learned in the implementation of ecological fiscal transfer.

#### 6.3.2 Implementation

- Conduct a pilot study
- Results can be used as justification for long term implementation

#### 6.4 Expected outcomes, financial and economic results

The expected outcome is a national vision of sustainable development and sustainability that takes ecological and biodiversity assets of the country into account. States will have a financial allocation that would compensate them for the opportunity cost of foregone logging. More opportunities for ecological friendly development will be created in all states.

This will contribute towards realigning expenditure from fiscal transfers to biodiversity, and potentially avoid future costs that may arise because these funds are now channeled towards activities that take into consideration ecological criteria.

Additionally, this finance solution can serve as a tool to empower state and local governments in addressing biodiversity conservation challenges through ecological fiscal transfers. This new development can encourage local level decision-makers to use local threatened plant species in their landscaping of public green spaces. While, the legal, institutional and financial feasibility of the ecological fiscal transfers and stakeholders' reception of this transfer scheme are key expected outcomes, improvements in conservation and maintenance of ecosystems and biodiversity is still the ultimate outcome.

# 6.5 Responsible parties and respective roles

**The federal and state governments and the National Land Council** – key parties for discussion and negotiation

**The Ministry of Finance, Economic Planning Unit, Ministry of Water, Land and Natural Resources** – responsible for the national budgeting planning process and existing fiscal transfer, will be the responsible partners and owners of this feasibility exercise results

**UNDP Malaysia Country Office** – implementing partner to manage and implement the BIOFIN Phase II project activities.

**Research institutes** – Technical support for economic valuation, resource management plans, monitoring and evaluation

#### 6.6 Timeline and milestones for implementation

#### Preparatory work: RMK 11 (2 years)

- Four background studies reforms needed to include ecological criteria into fiscal transfer formulae, economic valuation of ecological assets, development of monitoring and evaluation mechanism and a legal and institutional review
- Proposal on fiscal transfer scheme for biodiversity to be considered in RMK-12 and the annual budget cycle
- Stakeholder consultations and sensitization at federal and state
- Learning of ecological fiscal transfers best practices from other countries

# Pilot implementation: RMK-12 (2 years)

· Review and presentation of results for institutionalisation

#### Full implementation: RMK-12

- Checks and balances
- Annual reviews

#### 6.7 Rapid Screening

Criteria	Score	Justification
Impact on	4	Very high impact on threatened/endangered species and habitats and
biodiversity		critical ecosystem services.
Financial	3	Potential to mobilize the proper amount of resources to states and local
impact		authorities
Likelihood	3	High likelihood of success. Sufficient political and social support.
of success		Commercially viable. Operational challenges are manageable
Total	10	

#### 6.8 Detailed Screening

#### Questions

Is there a positive record of implementation?

Score 1

Will it generate, leverage, save, or realign a large volume of financial resources?	3
Will financing sources be mobilized in a compatible timeline with needs?	3
Will financing sources be stable and predictable?	5
Do the persons or entities paying have a willingness and ability to pay or invest?	5
Are the financial risks adequately managed (e.g. Exchange rate, lack of investors, etc.)?	3
Are start-up costs onerous in comparison to the expected financial returns?	5
Does the solution improve incentives to manage biodiversity and ecosystems sustainably?	5
Will the financial resources remain targeted to biodiversity over time?	5
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	3
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural)?	3
Would there be a positive impact on gender equality, especially regarding participation in design and implementation or access to opportunities and benefits?	3
Have risks of significant unintended negative social consequences been anticipated and managed?	3
Will it be viewed as equitable and will there be fair access to the financial and biodiversity/ecosystem resources?	3
Is it backed by political will?	3
Have political risks been anticipated and managed?	3
Is buy-in among stakeholders (i.e. potential investors/decision makers, implementers and beneficiaries) sufficiently strong to counter potential opposition?	3
Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	3
Is it legally feasibly? How challenging will any legal requirements be?	3
Is it coherent with the institutional architecture, can synergies be achieved?	5
Total	70

# 6.9 Technical proposal summary

# **Ecological Fiscal Transfer**

<b>Rationale and</b>	The current formula for fiscal transfer does not include biodiversity or
justification	ecological asset value. States get revenue from developing those assets
	but in the process destroy biodiversity values and create other problems
	(flooding). Revising the fiscal transfer formula to include biodiversity and
	ecological values would create a more sustainable future and
	sustainability for all. Malaysia needs to pursue this direction of
	development.

	NPBD Target 17 focuses on generating new funds for conservation and Target 3 highlights the mainstreaming of biodiversity conservation. Targets 6, 7 and 8 that focus on protected area conservation,	
	rehabilitating vulnerable ecosystems, and terrestrial and marine ecological corridors, respectively are also relevant.	
Design of solution	<ul> <li>Include ecological criteria into the fiscal transfer formulae so that a certain percentage of fiscal transfers from federal to state is earmarked according to ecological requirements.</li> <li>State and local governments meet ecological requirements in exchange for a steady stream of fiscal transfers for conservation.</li> <li>Ecological criteria could be % of land in protected areas, % of green spaces in cities, and particularly, biodiversity richness measurements</li> </ul>	
Strategies	<ul> <li>Conduct technical studies to determine the economic values of biodiversity and ecological assets of the states. It should include an analysis of trends as well as institutional factors.</li> <li>Establish a national vision of sustainable development and sustainability that would benefit all stakeholders now and in the future through extensive consultation with state, and federal governments and other stakeholders.</li> <li>Prepare a paper on a new fiscal transfer formula that includes biodiversity and ecological values.</li> <li>Organise South-South learning exchange on best practices and lessons learned in the implementation of ecological fiscal transfer.</li> </ul>	
Expected outcomes, financial and economic results	<ul> <li>a national vision of sustainable development and sustainability that takes ecological and biodiversity assets</li> <li>States to get a financial allocation via fiscal transfer that would compensate them for the opportunity cost of foregone logging</li> <li>opportunities for ecological friendly development will be created in all states</li> </ul>	
Responsible	The Federal and State governments, including National Land Council	
respective roles	Ministry of Finance, Economic Planning Unit, Ministry of Water, Land and Natural Resources.	
Clear timeline	UNDP Malaysia Country OfficeResearch institutes Preparatory work: RMK 11 (2 years)	
and milestones for implementation	<ul> <li>Four background studies – reforms needed to include ecological criteria into fiscal transfer formulae, economic valuation of ecological assets, development of monitoring and evaluation mechanism and a legal and institutional review</li> <li>Proposal on fiscal transfer scheme for biodiversity to be considered in RMK-12 and the annual budget cycle</li> <li>Stakeholder consultations and sensitization at federal and state</li> <li>Learning of ecological fiscal transfers best practices from other countries</li> </ul>	
	Pilot implementation: RMK-12 (2 years)	

# Review and presentation of results for institutionalisation Full implementation: RMK-12 start Checks and balances Annual reviews

# 6.10 References

Government of Malaysia. Federal Constitution, Government Printers.

Pakatan Harapan (2018). Buku Harapan Rebuilding Our Nation Fulfilling Our Hopes

UNDP (2018). Ecological Fiscal Transfers, Financing Solutions for Sustainable Development.

### 7 Tax incentives for landscaping using local threatened plant species

### 7.1 Rationale and justification

### 7.1.1 Why this solution?

By 2050, two-thirds of the world's population would be living in cities (UN-Habitat, 2018). As more urban landscapes are developed to accommodate this shift, urban green space and green infrastructure are becoming increasingly attractive as incubators and bio-banks for local, rare, threatened species and biodiversity to counterbalance the threats to natural ecosystems.

Malaysia's national planning and landscaping policies and guidelines, such as the National Landscape Department (JLN)'s National Landscape Policy, advocate that 30% of urban development areas should be green spaces. At present, community forests gazetted and conserved by neighbourhoods meet these requirements. Developers plant both local and alien plant species to meet these requirements. However, there are no specific criteria or incentives to prioritise local threatened plant species.

Tax incentives, with an expiry, could help in developing a biodiversity market. Standards for monitoring and evaluation from this solution could be extended to regulate a market for biodiversity products and services. Policies, guidelines and incentives can push for a higher demand for these biodiversity products, and their spin-offs.

In addition to the policy and guidelines, some knowledge for this solution already exists. Research has been conducted by both the public and private sectors on threatened and endangered plant species in Malaysia. Examples include the Forest Research Institute Malaysia (FRIM)'s National Strategic for Plant Conservation and Sime Darby Property's Malaysian Threatened and Rare Tree book. They are guides for implementers and practitioners. However, additional knowledge is needed on planting, techniques, skills, research and knowledge need. Funding for developing the knowledge and innovation to accelerate efforts for the conservation of rare, and threatened plant species.

# 7.1.2 Biodiversity and the NPBD

The protection of threatened species, Target 9, has one of the highest financial needs. Target 6, Policy Action 6.5 of the NPBD specifically highlights the importance of conserving urban biodiversity and is one of the lesser funded policy actions as most funds are still centred on protected areas. Target 2 which seeks the contribution of society and the private sector to participate in the conservation and sustainable utilisation of biodiversity is relevant for this solution. Target 17 on increase in funds and resources for conservation is particularly relevant.

# 7.1 Design of solution

# 7.1.1 How does it work?

To promote, protect and conserve local threatened, and endangered species, this solution is advocating for three things. Firstly, specific criteria be inserted into landscaping policies and guidelines to encourage developers to plant local, rare, threatened plant species in their developments. Secondly, tax incentives be available to property developers to encourage them to adopt the abovementioned specific criteria for local species. While the former may be slow in taking off, the tax incentives can specify conditions first. Thirdly, the government can allocate funds to accelerate the development of knowledge and practice for the planting of the designated species.

MIDA currently facilitates tax incentives on behalf of MOF for green industry where 100% of qualifying capital expenditure incurred on green technology projects from the year of assessment 2013 to 2020 is given a Green Investment Tax Allowance (GITA) for assets and projects that qualify as "green". The government can adopt a similar platform and mechanism to the GITA for projects, to be applied to landscaping in developments using local species. If development projects meet the conditions of planting local threatened species in their developments, they qualify for GITA.

# 7.1.2 Risks and mitigation measures

Some concerns about tax incentives and funding are whether they are sustainable. As this solution is incentive based, the risk lies in how to ensure that the solution is sustainable beyond the short term. Once the tax incentives or funding run out, measures need to be put in place to ensure its continuity. The long-term sustainability of this effort is dependent on whether the market for local threatened species grows and whether local governments are incentivised to implement this initiative beyond the incentive and funding.

A major concern with tax incentives is deadweight loss that developers would plant anyway so the incentive just adds to their profit. Incentives also create economic distortions due to unintentional preferential treatment of projects and rent-seeking (IMF, 2009).

Finally, the government must be convinced of the benefits of providing tax incentives or funding. As government has signalled that they are in great debt, the economic justification must be overwhelming.

# 7.2 Strategies

#### 7.2.1 Planning

A feasibility study shall be carried out to see if there is an economic case for incentives and funding. The study should include the period for the incentives to take effect and their expiry.
### 7.2.2 Implementation

Once the economic feasibility is established, stakeholder consultations and sensitisation exercises are needed with federal, state and local governments, private development sector, nurseries, technical advisors and also members of the public to devise an action plan.

Thereafter, a proposal and advocacy paper can be prepared for MOF to include this project as being eligible for the GITA, and/or to include funding.

### 7.3 Expected outcomes, financial and economic results

The expected outcome is the incorporation of criteria that emphasises the planting of local threatened plant species in national planning and landscaping policies and guidelines for green spaces, and the advocacy and enforcement of this criteria. This solution can, if both the public and private sector work together, actually push for ex-situ conservation of local plant species through the various urban green spaces. Eventually, this solution will contribute its regulatory environment and biodiversity spin-off products and services to the establishment of a biodiversity market.

The other expected outcome is creating a bio-bank and incubator for local threatened endangered species, instead of depending on potentially invasive species that are alien to the local ecosystem. Developers would nurture local threatened plant species and expand the nurseries for these species. The export market for such species should also be explored.

### 7.4 Responsible parties and respective roles

**Private sector supply chain: Developers, nurseries** – The main drivers that must be convinced to take on this solution. Developers would be the target audience, whereas nurseries must be convinced that there is a demand for local, threatened plant species.

**Regulatory entities: MOF, JPBD, JLN, local authorities** – The government authorities on tax revenues and funding (MOF), and for advising and enforcing landscaping and planning guidelines. Together, they should form implementing committee for tax incentive and funding

**Technical advisors: The Malaysian Landscape Architects Association, FRIM, other experts on plant species, communities with forests and gardens** – these would form the knowledge base for this solution. They would be able to advise implementers of this solution on the technical knowledge needed to implement, monitor and enforce

### 7.5 Timeline and milestones for implementation

### Review and preparatory work: RMK-11 (1 year)

- Feasibility, cost-benefit study
- Stakeholder consultations and sensitisation exercises
- Proposal and advocacy paper to MOF
- Short term action plan

## Pilot implementation: RMK-12 (1 years)

• Long term action plan

### Full-scale implementation: RMK-12 (4 years)

- Monitoring and evaluation annually
- Shift to long-term plan

## 7.6 Rapid Screening

Criteria	Score	Justification
Impact on	3	High impact on biodiversity and ecosystem services as we can conserve
biodiversity		threatened plant species
Financial	3	Potential to mobilize or save a high amount of resources
impact		
Likelihood	3	High likelihood of success. Sufficient political and social support. Can
of success		ride on existing green township incentive.
Total	9	

### 7.7 Detailed Screening

Questions	Score
Is there a positive record of implementation?	3
Will it generate, leverage, save, or realign a large volume of financial resources?	3
Will financing sources be mobilized in a compatible timeline with needs?	3
Will financing sources be stable and predictable	5
Do the persons or entities paying have a willingness and ability to pay or invest?	5
Are the financial risks adequately managed (e.g. Exchange rate, lack of investors, etc.)?	1
Are start-up costs onerous in comparison to the expected financial returns?	5
Does the solution improve incentives to manage biodiversity and ecosystems sustainably?	5
Will the financial resources remain targeted to biodiversity over time?	5
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	3
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural)?	3
Would there be a positive impact on gender equality, especially regarding	
participation in design and implementation or access to opportunities and benefits?	3
Have risks of significant unintended negative social consequences been anticipated and managed?	5
Will it be viewed as equitable and will there be fair access to the financial and	3
biodiversity/ecosystem resources?	
is it backed by political will?	5

Have political risks been anticipated and managed?	3
Is buy-in among stakeholders (i.e. potential investors/decision makers, implementers and beneficiaries) sufficiently strong to counter potential opposition? Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	5
bo the managing actor(s) have sumilient capacity: can they rapidly acquire it:	3
Is it legally feasibly? How challenging will any legal requirements be?	5
Is it coherent with the institutional architecture, can synergies be achieved?	3
Total	76

# 7.8 Technical proposal summary

## Tax incentives for landscaping using local threatened plant species

Rationale and justification	As urban landscapes are being developed to accommodate urban migration, urban green spaces are becoming attractive as incubators and bio-banks for local, rare, threatened species and biodiversity. Malaysia's national planning and landscaping policies and guidelines advocate that 30% of urban areas should be green spaces. However, there are no specific criteria or incentives to prioritise local threatened plant species. The protection of threatened species has one of the highest financial needs, Target 9 of the NPBD. Target 6, Policy Action 6.5 that highlights the importance of conserving urban biodiversity, is one of the lesser funded policy actions. Other relevant targets include Targets 2 and 17.
Design of solution	<ul> <li>Specific criteria be highlighted in landscaping policies and guidelines to encourage developers to plant local, rare, threatened plant species in their developments to meet guidelines.</li> <li>Tax incentives and funding are eligible for projects that use local, rare, species. Qualifying projects are eligible GITA (100% tax allowance for qualifying capital expenditure on green technology products) and matching funds, for landscaping in developments using local species. The larger objective is to create green markets and generate exports. These financial incentives shall expire after the markets are fully functioning.</li> <li>Some concerns about tax incentives and funding are whether they are sustainable, are deadweight loss and distort the markets. Proper design of the incentive system can take care of such problems</li> </ul>
Strategies	<ul> <li>Carry out an economic feasibility study</li> <li>Consult all stakeholders and sensitise them to the value of conserving biodiversity, strategic positioning of urban landscaping in conserving biodiversity, how tax incentives and funds can help in a long term plan</li> </ul>
Expected outcomes,	The expected outcome is the incorporation of criteria that emphasises the planting of local threatened plant species in national planning and

financial and economic results	<ul><li>landscaping policies and guidelines for green spaces, and the advocacy and enforcement of this criteria.</li><li>The other expected outcome is creating a bio-bank and incubator for local threatened endangered species, instead of depending on potentially invasive species that are alien to the local ecosystem.</li></ul>
Responsible parties and respective roles	Private sector supply chain: Developers, nurseries Public sector regulators: MOF, JPBD, JLN, local authorities Technical advisors: The Malaysian Landscape Architects Association, FRIM, other experts on plant species, communities with forests and gardens
Clear timeline and milestones for implementation	<ul> <li>Review and preparatory work: RMK-11 (1 year)</li> <li>Feasibility, cost-benefit study</li> <li>Stakeholder consultations and sensitisation exercises</li> <li>Proposal and advocacy paper to MOF</li> <li>Short term action plan</li> </ul>
	<ul> <li>Pilot implementation: RMK-12 (1 years)</li> <li>Drafting of long term plan</li> <li>Full-scale implementation: RMK-12 (4 years)</li> <li>Monitoring and evaluation annually</li> <li>Review and evaluation of implementation</li> <li>Shift to long-term plan</li> </ul>

### 7.9 References

Forest Research Institute Malaysia (FRIM) (2009). National Strategy for Plant Conservation. Available at: <u>https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Causes-Benefits-and-Risks-of-Business-Tax-Incentives-22628</u>, Accessed on 17 August 2018.

International Monetary Fund (2009). Causes, Benefits, and Risks of Business Tax Incentives.

Kay Tang (2017). Endangered Plants in Malaysia.

National Landscape Department (JLN) (2011). National Landscape Policy. Available at: <u>https://elandskap.kpkt.gov.my/elandskapv6/upload/1481773822dln\_bi.pdf</u>, Accessed on 18 August 2018.

Sime Darby Property (2017). Malaysian Threatened and Rare Tree Identification and Landscape. Available at: <u>http://www.yayasansimedarby.com/media/malaysian-threatened-and-rare-tree-identification-and-landscape-guideline</u>, Accessed on 18 August 2018.

### 8 Direct part of Access-Benefit Sharing (ABS) funds to biodiversity

### 8.1 Rationale and justification

#### 8.1.1 Why this solution?

The Access to Biological Resources and Benefit Sharing (ABS) Bill 2017 was passed by the Malaysian Parliament to implement the provisions of the United Nations Convention on Biological Diversity (CBD). The ABS Bill ensures fair and equitable sharing of benefits arising from the use of genetic resources. The bill necessitates prior, informed consent of the authority in charge of the resource before a resource is accessed. It also requires that the authority be notified whenever a patent is applied for on any resource or traditional knowledge accessed through the system. The bill also affords legal protection for the traditional knowledge of indigenous and local communities.

Under the provisions of the bill, a national competent authority is to be established to administer the access and benefit sharing mechanism. As of August 2018, state level competency agencies have been established to discuss and draft standard operating procedures (SOPs) for the ABS mechanism. Additionally, discussions on whether the payments should be consolidated into a national ABS fund or state ABS fund are still in progress. As the SOPs for the ABS mechanism are currently being formulated, it is timely to ask that a percentage of the funds be earmarked for biodiversity conservation and sustainable use.

### 8.1.2 Biodiversity and the NPBD

Target 14 of the NPBD focuses solely on ABS, but it is one of the most underfunded targets in the FNA. Policy Action 14.1 on developing and enforcing ABS legislation, and Policy Action 14.3 on the protection and documentation of Indigenous and Local Communities' (ILCs) traditional knowledge were not stated by any organisation in the Malaysian FNA. ABS not only contribute monetarily to biodiversity and ILCs, but also in terms of collaboration and contribution to scientific research and development, access to relevant to conservation and sustainable use data, admittance to genetic resources facilities and databases. These are highlighted by NPBD Target 16, as well as contributions to the local economy and knowledge (Target 2).

### 8.2 Design of solution

### 8.2.1 How does it work?

Under the ABS Bill, the government has the authority to charge the user for the utilisation of the genetic resource or traditional knowledge. The benefits will then be transferred to the intended beneficiaries. According to the Bill, a certain portion of the funds will be returned to the traditional knowledge holders, and a portion should also return to the custodian or owner of the protected area from which the genetic resource originates for management, conservation and sustainable use of the home ecosystem. These funds would then be used to manage and conserve the biodiversity that enables the genetic resource to flourish.

Regardless of where the fund is set up – at the national or local level, earmarking must take place. The transactional costs would be relatively low if earmarking is included in the SOPs as opposed to formulating a separate mechanism later on.

A case can be made for a Payments for Ecosystem Services (PES) mechanism to be inserted into the SOP. The justification for a PES mechanism are: a) benefits from biodiversity from a particular area be returned to the area in which they came, b) conditionality – payments are only made if the benefits are derived, and c) additionality – the conservation activities carried out in the ecosystem is the basic condition for the benefits.

### 8.2.2 Risks and mitigation measures

The following risks may arise: the ecosystem preservation rationale may not meet the conditionality and additionality criteria of the PES mechanism. The PES funds may not be substantial, or even consistent for each case. Thus, the incorporation of PES is essential to be discussed with relevant experts and added to the SOPs for the ABS mechanism.

Additionally, since land and natural resources are a state matter, an assessment of the capacity of states to implement is also important. Without a competent authority that is capable to coordinate, manage and monitor and evaluate, this solution is at risk.

### 8.3 Strategies

### 8.3.1 Planning

The status of the current discussions between state competent agencies on the ABS mechanism SOPs must be held. Simultaneously, stakeholder consultations with technical experts to be held on an appropriate percentage of the funds for PES. The driver for this financing solution (PES) must lobby state competent authorities and relevant agencies and ministries to include an allocation for PES in the SOPs of the ABS mechanism.

### 8.3.2 Implementation

There should be a pilot implementation from which lessons learned can inform the full scale implementation. This may have a slow uptake, depending on the implementation of the ABS mechanism.

### 8.4 Expected outcomes, financial and economic results

The expected outcome is new revenue for better management, conservation and sustainable use of biodiversity on top of ensuring fair equitable sharing of benefits from genetic resources. This would be an acknowledgement of the contribution of biodiversity and ecosystems as habitats for genetic materials, and the rightful payments for this service.

The other expected outcome is that owners or custodians of the protected areas would deliver better biodiversity ecosystem services.

### 8.5 Responsible parties and respective roles

Funding mechanism: ABS state competent agency, State treasury, ABS fund committee, MOF, EPU, NRE, state legal advisors – These parties are in charge of the funds and priorities of the ABS mechanism, and must be consulted in the process of establishing SOPs for the ABS mechanisms

**Potential beneficiaries of the ABS mechanism funds for conservation – State governments, JPSM, JPSM, JAKOA, NGOs, ILCs** – these are the potential beneficiaries of the funds from the ABS mechanism. Their opinions would need to be consulted on the portioning of ABS funds for conservation and on the type of mechanism chosen. Where necessary, they would also need to be sensitised on the ABS mechanism itself.

### 8.6 Timeline and milestones for implementation

### Preparatory work: RMK-11 (1 year)

- Interject into the current ABS discussions, the role for PES
- Stakeholder consultations with technical experts for an appropriate percentage of the funds to go back for biodiversity conservation
- Lobby state competent authorities and relevant agencies and ministries
- Assessment of the capacity of states to implement
- Put in place mechanisms to implement and manage, monitor and measure impact, and demonstrate additionality and conditionality of the ecosystem services
- Build capacity of competent authorities

### Pilot implementation: according to the implementation of the ABS mechanism

- Monitor and measure impact, and returns on investments
- Sensitisation of all relevant parties on the significance of the portioning of ABS royalties back to biodiversity

### Full-scale implementation: RMK-12 (ongoing)

• Yearly review and capacity building

### 8.7 Rapid Screening

Criteria	Score	Justification
Impact on	4	Very high impact on biodiversity ecosystem services
biodiversity		
Financial	3	Potential to mobilize high amount of resources especially from the
impact		pharmaceutical industry
Likelihood	2	Moderate likelihood of success due to limited political as this is still new
of success		for our country and there could be operational or technical barriers.
Total	9	

8.8 Detailed Screening	
Questions Is there a positive record of implementation? Will it generate, leverage, save, or realign a large volume of financial resources?	Score 3 3
Will financing sources be mobilized in a compatible timeline with needs?	3
Will financing sources be stable and predictable	3
Do the persons or entities paying have a willingness and ability to pay or invest?	3
Are the financial risks adequately managed (e.g. Exchange rate, lack of investors, etc.)?	3
Are start-up costs onerous in comparison to the expected financial returns?	5
Does the solution improve incentives to manage biodiversity and ecosystems sustainably?	3
Will the financial resources remain targeted to biodiversity over time?	3
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	5
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural)?	3
Would there be a positive impact on gender equality, especially regarding participation in design and implementation or access to opportunities and benefits?	3
Have risks of significant unintended negative social consequences been anticipated and managed?	5
Will it be viewed as equitable and will there be fair access to the financial and biodiversity/ecosystem resources?	3
Is it backed by political will?	3
Have political risks been anticipated and managed?	3
Is buy-in among stakeholders (i.e. potential investors/decision makers, implementers and beneficiaries) sufficiently strong to counter potential opposition?	5
Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	3
Is it legally feasibly? How challenging will any legal requirements be?	3
Is it coherent with the institutional architecture, can synergies be achieved?	5
Total	70

## 8.9 Technical proposal summary

## Direct part of Access-Benefit Sharing (ABS) funds to biodiversity

Rationale and	The Access to Biological Resources and Benefit Sharing (ABS) Bill 2017
justification	was passed by the Malaysian Parliament to implement the provisions of
	the UN Convention on Biological Diversity (CBD). The ABS Bill ensures

	fair and equitable sharing of benefits arising from the use of genetic resources. As of August 2018, state level competency agencies have been established to discuss and draft standard operating procedures (SOPs) for the ABS mechanism, as requested by states. Target 14 of the NPBD focuses solely on ABS and is also one of the most underfunded Targets in the FNA. Policy Action 14.1 on developing and enforcing ABS legislation, and Policy Action 14.3 on the protection and documentation of ILCs traditional knowledge have no mention in the FNA at all. ABS also enables collaboration and contribution to scientific research and development, access to relevant to conservation and sustainable use data, and contributions to the local economy and knowledge (Targets 16 and Target 2).
Design of	Under the mandate of the ABS Bill, the user is charged for use of the
solution	the traditional knowledge holders, the custodian or owner of the areas
	where the resource originates. These funds would be used to manage
	appropriate mechanism is Payments for Ecosystem Services (PES) for the
	funds to go back to the areas as per the conditionality and additionality
Strategies	Stakeholder consultations with technical experts on an
	<ul> <li>appropriate percentage of the funds back for biodiversity conservation</li> <li>Lobby for a PES portion in the SOPs of the ABS mechanism</li> <li>Assess the capacity of states to implement</li> </ul>
	<ul> <li>Set up mechanisms to implement and manage, monitor and measure impact, to demonstrate additionality and conditionality elements</li> </ul>
	Build capacity and sensitise all relevant parties
Expected	• Launch a pilot, followed by full-scale implementation The expected outcome is new revenue for better management,
outcomes,	conservation and sustainable use of biodiversity on top of ensuring fair
financial and economic results	equitable sharing of benefits from genetic resources. The PES scheme would encourage owners or custodians to deliver better biodiversity
	ecosystem services.
Responsible parties and	Funding mechanism: ABS state competent agency, State treasury, ABS fund committee, MOF, EPU, NRE, State legal advisors
respective roles	Potential beneficiaries – State governments, JPSM, JPSM, JAKOA, NGOs,
Clear timeline	ILCs Preparatory work: RMK-11 (1 year)
and milestones	<ul> <li>Interject PES into the current discussions on SOPs for ABS</li> </ul>
for	Consult technical experts on the percentage of the funds for PES
mplementation	<ul> <li>LODDY state competent authorities and relevant agencies and ministries</li> </ul>
	<ul> <li>Assessment of the capacity of states to implement</li> </ul>
	<ul> <li>Set up mechanisms to implement and manage, monitor and</li> </ul>

<ul><li>measure impact, and demonstrate additionality and conditionality for PES</li><li>Build capacity of all stakeholders</li></ul>
<ul> <li>Pilot implementation: according to the implementation of the ABS mechanism</li> <li>Monitor and measure impact, and returns on investments</li> <li>Sensitise all parties on role of the PES in the ABS mechanism</li> </ul>
Full-scale implementation: RMK-12 (ongoing)
<ul> <li>Yearly review and capacity building</li> </ul>

### 8.10 References

Access to Biological Resources and Benefit Sharing (ABS) Bill (2017)

Ministry of Natural Resources and Environment (2017). Developing financial and funding mechanisms for access and benefit sharing of biological resources and traditional knowledge process in Malaysia – Final Report. (unpublished).

### 9 Building a business market for biodiversity

### 9.1 Rationale and justification

### 9.1.1 Why this solution?

Malaysia's economic growth has traditionally been based on primary commodities such as oil and gas (O&G), tin, timber, rubber and palm oil – all of which are natural resources. In the 1980s, an economic diversification strategy was pursued to reduce this overconcentration in upstream commodities which led to the development of the manufacturing and services sectors (horizontal diversification) and moving up the commodities value chain from upstream to downstream activities (vertical diversification) (BNM, 2013).

Despite the share of primary commodities falling to 15.7% of GDP and 24.2% of exports compared to 1980, natural resources still formed a substantial part of the Malaysian economy through the development of resource-based industries (RBI) which was one of the biggest growth drivers of manufacturing sector between 2002 and 2012. This included mainly the manufacturing of petrochemical, oleochemicals, refined petroleum, palm oil, rubber gloves, tyres and prophylactics products. RBI manufacturing grew at a rate of 6.8% in that period as compared to electrical and electronic manufacturing that grew at only 1.7%. In terms of Manufacturing GDP growth, RBI constituted the largest share with 37.7% in 2012 and the RBI share of manufacturing exports grew from 16.8% in 2002 to 31.5% in 2012 – figures that are evident to the positive impact of vertical diversification of resource-based industries (BNM, 2013).

This diversification is now being pursued by resource-based services (RBS) industry which constitute activities that provide support services to the commodities sector such as O&G exploration enhancements, storage and warehousing and transhipment of commodities. Building on RBI capabilities and moving into high value-added activities in the services sector, RBS will enable Malaysia to complete the value chain in the commodities sector (BNM, 2013). According to Bank Negara Malaysia (BNM), resource-based industries and resource-based services are important sectors to advance Malaysia into high-income nation status by 2020. Evidently, natural resources have been and still continue to be significant for the Malaysian economy.

However, has Malaysia fully utilised its full range of natural resources? Probably not.

Malaysia is one of the top 12 most biodiverse countries in the world (NRE, 2014). It is home to a vast array of ecosystems and habitats such as tropical lowland forests, mangroves, peat, seagrass, coral reefs, tropical river and lake systems, caves, mountains that support at least 178,000 species of flora and fauna, not yet including microorganisms (KATS, 2018). From genes, species and ecosystems, Malaysia's biological diversity is a treasure trove of resources that have yet to be fully explored or harnessed. This not only includes biotechnology and bio-prospecting potential for medicines, chemicals, fuels and materials but also biomimicry potential for innovating products, processes and systems based on nature's designs (Box 1).

This BFP proposes that biodiversity is the next sector that can be developed to inject further growth and diversification into resource-based industries and resource-based services. Apart from increasing the nation's revenue, this solution can prompt investment into research and knowledge-based activities, protection and conservation of biodiversity, sustainable use of biological resources as well as education and human capital development (e.g. professionalising protected areas management).

Malaysia has inherent advantage to develop this sector. Firstly, most biodiversity-rich countries are developing countries that have yet to enjoy the development and economic advancement that Malaysia has. In addition to the experience of diversifying downstream activities of the commodities sector and the strong export networks, Malaysia is perhaps the only country in Southeast Asia with the right mix of development and sufficient natural resources that would enable it to lead this sector. Competition is therefore unlikely to be stiff and markets to absorb biodiversity related products and services are large (since other bio-rich nations cannot invest sufficiently to find solutions).

Secondly, the nation has invested in a network of terrestrial and marine protected areas in addition to forest reserves where biodiversity is conserved. Thirdly, the nation has in place a number of institutions that could grow further with the development of this sector e.g. Forest Research Institute of Malaysia (FRIM), Sarawak Biodiversity Centre, Bioeconomy Corporation, Intellectual Property Corporation of Malaysia (MyIPO). Foundational supporting provisions are also available in policies, initiatives and development plans to grow the bioeconomy and green industries in the nation.

In fact, Malaysia has been showing signs of tapping into its vast biological resources through the National Biotechnology Policy 2005 and the establishment of the national initiative for bioeconomy in 2015. As of 2015, bioeconomy was estimated to contribute RM 131 billion or 11.3% of Malaysia's total GDP having encompassed the economic impact from all sectors that possibly benefit from bio-based technologies like agriculture, chemical production and oil and fat processing (Bioeconomy Corporation, 2018). At the same time, markets for the direct harvest and trade of biodiversity already exist in Malaysia. Ornamental plants, nontimber products (e.g. gaharu), birds, pangolins, fish and other marine products are just some examples of biodiversity that are already being traded, either legally or illegally from our borders. It is estimated that RM 6 billion revenue is lost annually to illegal fishing in the South China Sea while millions have been lost through illegal logging, not including losses from resulting damages to the natural habitat.

The argument for developing the biodiversity resource-based industry and services is clear without protecting and managing the biological resources, Malaysia would have already lost its inherent advantage before the nation has been able to fully harness its potential. By developing the biodiversity sector further in resource-based industries and resource-based services, this solution aims to attract further investments into and grow the returns from keeping intact biodiversity.

### 9.1.2 Biodiversity and the NPBD

There is currently a very nascent market for biodiversity, and Target 17 focuses on creating a sustainable income for biodiversity conservation.

### 9.2 Design of solution

### 9.2.1 How does it work?

Malaysia will develop a market that harnesses the spin-off value generated by trading biodiversity knowledge as well as the products and the services inspired by biodiversity. This includes services to manage, maintain and restore biodiversity as well as sustainably harness the ecosystem services provided. Strong enforcement as well as development of standards, certifications and labelling would be needed as preventive measures against exploitation or overharvesting of biodiversity.

However, this solution, as mentioned above, will build upon the services and products created by the other solutions. For example, through the GGP, tax incentives for landscaping using local biodiversity in urban areas and voluntary standards for the finance sector, spin offs would emerge in standards, certification, labelling and enforcement, training, management and research.

The Innovation Challenge Fund can spur the development of biodiversity products and services that are needed by enforcement, legal and judicial processes, disaster assessment and reduction and new financial products, among others. Other spin offs could be in in manufacturing, education and training and other professional services as the biodiversity market matures.

### 9.2.2 Risks and mitigation measures

The biodiversity business market is a gamble for investors and potential traders because there is no record of implementation prior to this in Malaysia. Even in the rest of the world, such a business market is still in its early stages. However, with the assistance of the government to carry out feasibility studies, and the building blocks that will be set in place by the other 9 solutions, the market for biodiversity can gradually be established.

The shift from marketing biodiversity products to biodiversity spin-off products, services and knowledge will be a slow one. For example, the trading of biodiversity itself through genetic resources, species of plants for landscaping, and quite recently the trading of carbon offsets and ecosystem services are becoming increasingly common. Nonetheless, the marketisation of spin-off products from these, for example biomimicry, biodiversity inspired technology and designs such as drawing upon the way biodiversity problem solves to solve real world problems, is only beginning to grow. It may take a while for these ideas and concepts to have a demand in Malaysia, let alone supply. In essence, we are only beginning to understand that biodiversity and the environment has economic value and can be traded in a market that can generate wealth just like more traditional economic products and services.

Developing the biodiversity sector may result in intensification of direct harvesting and trade of biodiversity. As experienced with commodities in Malaysia's past, such intensification without sustainability considerations will only lead to swift degradation of

the resource before higher value-added downstream activities can be fully developed. Another risk would be that we may end up over-commercialising biodiversity. Although we have stopped clearing tropical forests, we can still destroy them if we are not careful with how much these spin-off products sustainably use and harvest biodiversity for research and development. We must be careful to not conserve biodiversity and its knowledge because it can bring profit, but actually value it for its importance to our ecosystem and humanity first, and also for its potential for it to inspire new markets, second.

### 9.3 Strategies

### 9.3.1 Planning

The first step is to review what biodiversity products, services or spin-offs already exist in Malaysia. A review must also be carried out of other solutions to determine how they can contribute towards this biodiversity market. Next, studies must be conducted on national interest in biodiversity markets and the valuation of biodiversity to estimate and plan out the scalability, growth and customer segments of this solution in the short and long term.

Based on the above results, stakeholder consultations and sensitisation can take place. The common understanding is that biodiversity is a public good, therefore it, and all its products and services should be free. The public needs to be sensitised to think of biodiversity as a new profit centre and supplier of core services to humanity's existence, from biodiversity as a liability, risk, or subject to exploit. Then only can one lobby for investments to spur the biodiversity market. The government cannot fund everything and needs co-funding and co-incubating from the private sector. Where necessary, capacity will be built.

### 9.3.2 Implementation

These studies and reviews culminate in a pilot implementation to demonstrate feasibility and also encourage the private sector to participate through market competition. This pilot will inform the long-term plan for this solution including reaching out to local and international stakeholders as part of the market. Checks and balances are essential not only for market, but for ensuring that biodiversity-friendly products and services are rendered; that biodiversity and nature are not harmed or over-exploited in this process.

### 9.4 Expected outcomes, financial and economic results

Ideally, the establishment of a business market for biodiversity will spur greater appreciation, a stronger business case and additional investments for biodiversity management, conservation and sustainable use. This would catalyse behavioural change towards development activities and consumer choices that would be either biodiversity neutral or friendly. This would avoid the potential disasters that could result from activities that impact biodiversity negatively. This in turn would avoid the potentially catastrophic economic, financial and social losses of such disasters, and the future costs of investing into mitigation measures.

This solution would also create new jobs, generate new revenues and spur greater innovation and technology based on biodiversity and its spin-off products and services. This

can elevate Malaysia's status as one of the world's 12 most mega biodiverse nations further, and, if successful, can transform Malaysia into a hub for sustainable biodiversity trading.

#### 9.5 Responsible parties and respective roles

**Innovators: Scientists, designers, planners, product developers** – These participants in the market would contribute towards creating the demand and supply for the biodiversity market

**Regulators: Government and other regulators who design guidelines, enforce and monitor** – Markets are monitored using government guidelines and laws, and voluntary standards. These stakeholders are responsible for designing these checks and balances and ensuring that the market is fair and accounted for.

**Business sector: Financial sector, donors, investors, entrepreneurs** – These stakeholders are the ones to be convinced that the biodiversity market is a fruitful venture that will provide them with returns in both the short and long term and is thus worthy of their investments.

#### 9.6 Timeline and milestones for implementation

#### Preparatory work: RMK-11 (2 years)

- Review of biodiversity products in Malaysia
- Review other finance solutions and determine how they can contribute towards biodiversity markets
- Conduct studies on interests in biodiversity markets, the valuation of biodiversity
- Stakeholder consultations and sensitisation
- Lobby for investments
- Capacity building

### Pilot implementation and transition to full-scale implementation: RMK-12 (5 years)

- Review and evaluate to determine long term plan
- Checks and balances

#### 9.7 Rapid Screening

Criteria	Score	Justification
Impact on	3	High impact on biodiversity ecosystem services
biodiversity		
Financial	4	Potential to mobilise very high amount of resources as there is a
impact		huge market for biodiversity related products and services
Likelihood of	2	Moderate likelihood of success due to limited political backing as this
success		is still new for Malaysia and there could be operational or technical
		barriers.
Total	9	

9.8 Detailed Screening	
Questions Is there a positive record of implementation?	Score 3
Will it generate, leverage, save, or realign a large volume of financial resources?	3
Will financing sources be mobilised in a compatible timeline with needs?	3
Will financing sources be stable and predictable	5
Do the persons or entities paying have a willingness and ability to pay or invest?	3
Are the financial risks adequately managed (e.g. Exchange rate, lack of investors, etc.)?	5
Are start-up costs onerous in comparison to the expected financial returns?	5
Does the solution improve incentives to manage biodiversity and ecosystems sustainably?	5
Will the financial resources remain targeted to biodiversity over time?	5
Are risks to biodiversity (e.g. disrespect of mitigation hierarchy) low or easily mitigated? How challenging would it be to develop safeguards?	3
Will there be a positive social and economic impact (e.g. jobs, poverty reduction and cultural)?	3
Would there be a positive impact on gender equality, especially regarding participation in design and implementation or access to opportunities and benefits?	3
Have risks of significant unintended negative social consequences been anticipated and managed?	5
Will it be viewed as equitable and will there be fair access to the financial and biodiversity/ecosystem resources?	3
Is it backed by political will?	1
Have political risks been anticipated and managed?	3
Is buy-in among stakeholders (i.e. potential investors/decision makers, implementers and beneficiaries) sufficiently strong to counter potential opposition?	3
Do the managing actor(s) have sufficient capacity? Can they rapidly acquire it?	3
Is it legally feasibly? How challenging will any legal requirements be?	3
Is it coherent with the institutional architecture, can synergies be achieved?	3
Total	70

# 9.9 Technical proposal summary

# Building a business market for biodiversity

Rationale and	Malaysia is among the top 12 bio-diverse countries in the world.
justification	However, it has yet to fully take advantage of this natural economic
	wealth and competitive advantage. Existing biodiversity markets focus
	on the marketing of biodiversity conservation as able to spur

	competitive economic growth. However, these markets primarily provide services of offsetting and compensations for managing and conserving ecosystem services. This solution proposes a biodiversity market that incentivises people to manage, maintain, restore and sustainably use biodiversity through the marketing of products and innovations created, inspired and influenced by biodiversity, its characteristics and knowledge. This solution would build upon the development of products and services resulting from previously mentioned finance solutions. Malaysia has already considered the potential of bioeconomy and tapping into biodiversity assets for nature based tourism. Target 17 focuses on creating a sustainable income for biodiversity conservation.
Design of solution	Malaysia will develop a market that harnesses the spin-off value generated by trading biodiversity knowledge as well as the products and the services inspired by biodiversity. This includes services to manage, maintain and restore biodiversity as well as sustainably harness the ecosystem services provided. Strong enforcement as well as development of standards, certifications and labelling would be needed as preventive measures against exploitation or overharvesting of biodiversity. This solution, as mentioned above, will build upon the services and products created by the other solutions. However, there is no record of implementation prior to this in Malaysia. Even in the rest of the world, such a business market is still in its early stages. However, with the assistance of the government to carry out feasibility studies, and the building blocks that will be set in place by the other 9 solutions, the market for biodiversity can gradually be established. The shift from marketing biodiversity products to biodiversity spin-off products, services and knowledge will be a slow one. We may also end up over- commercialising biodiversity.
Strategies	<ul> <li>Conduct review of biodiversity products, services or spin-offs in Malaysia, and of the other finance solutions to determine how they can contribute towards this biodiversity market.</li> <li>Conduct studies must be conducted on national interest in biodiversity markets and the valuation of biodiversity</li> <li>Conduct stakeholder consultations and sensitisation on biodiversity as a new profit centre and supplier of core services to humanity's existence</li> <li>Lobby for investments to spur the biodiversity market.</li> <li>Build capacity</li> <li>Implement a pilot run in preparation for long term implementation</li> <li>Ensure that checks and balances are set in place</li> </ul>
Expected outcomes, financial and	The establishment of a business market for biodiversity will spur greater appreciation, a stronger business case and additional investments for biodiversity management, conservation and sustainable use. This would

economic results	catalyse behavioural change, avoid the potential disasters that could result from activities that impact biodiversity negatively, and the potentially catastrophic economic, financial and social losses of such disasters. This solution would also create new jobs, generate new revenues and spur greater innovation and technology based on biodiversity and its spin-off products and services. This can elevate Malaysia's status as one of the world's 12 most mega biodiverse nations further, and successful, can transform Malaysia into a hub for sustainable biodiversity trading.
Responsible	Innovators: Scientists, designers, planners, product developers
parties and	Regulators: Government and other regulators who design guidelines
respective roles	enforce and monitor
	Business sector: Financial sector, donors, investors, entrepreneurs
Clear timeline	Preparatory work: RMK-11 (2 years)
and milestones	Review of biodiversity products in Malaysia
tor implementation	<ul> <li>Review other finance solutions and determine how they can</li> </ul>
implementation	contribute towards biodiversity markets
	<ul> <li>Conduct studies on interests in biodiversity markets, the</li> </ul>
	valuation of biodiversity
	<ul> <li>Stakeholder consultations and sensitisation</li> </ul>
	Lobby for investments
	Capacity building
	Pilot implementation and transition to full-scale implementation: RMK-
	12 (5 years)
	<ul> <li>Review and evaluate to determine long term plan</li> </ul>
	Checks and balance

### 9.10 References

Bank Negara Malaysia (2013) "Further Diversification of Malaysia's Resource-based Industries" in Economic Developments in 2013 of BNM Annual Report 2013. Available at: <u>http://www.bnm.gov.my/files/publication/ar/en/2013/cp01\_001\_box.pdf</u>, Accessed on 18 August 2018.

Ministry of Water, Land and Natural Resources (KATS) (2018) Biodiversity: Introduction. Available at: <u>http://www.kats.gov.my/en-my/biodiversity/Pages/default.aspx</u>, Accessed on: 18 August 2018.

Ministry of Natural Resources and environment (2014) Malaysia's 5<sup>th</sup> National Report to the Convention of Biological Diversity.

New Straits Times (2017) "Malaysia loses RM6 billion annually due to illegal fishing in SouthChinaSea,"inNewStraitsTimes.https://www.nst.com.my/news/nation/2017/06/250427/malaysia-loses-rm6b-annually-due-illegal-fishing-south-china-sea, Accessed on: 18 August 2018

Bioeconomy Corporation (2018) Overview of Bioeconomy. Available at: <u>http://www.bioeconomycorporation.my/bioeconomy-malaysia/investing-in-bioeconomy/investment-overview/</u>, Accessed on 18 August 2018.

### Appendix V: Summary of BIOFIN Process

### Process that led to the drafting and validation of the plan

Upon completion of the Financial Needs Assessment (FNA) analysis and gap analysis, key gaps and areas for improvement were identified. These were used to inform the selected financial solutions for the Biodiversity Finance Plan (BFP). According to the BFP methodology, the solutions proposed by the project team underwent first, rapid screening scoring, and then second, detailed screening. This process narrowed down the solutions from 15 to 10.

Where there were existing solutions for gaps and needs, the suggestion was to incorporate a biodiversity component to the existing solutions. For example, scaling up the MBEON, coordinating the NCTF and private trust funds, creating an innovation challenge fund for biodiversity and inclusion of biodiversity criteria into GGP, all passed the scoring since they were relatively easy to implement as they are piggybacking on existing mechanisms.

The remaining solutions – building a business market for biodiversity, voluntary finance standards, tax incentives for landscaping using local species, ABS funds for biodiversity, disaster risk insurance partial investments into biodiversity and redirecting of environmental fines to mainstream the judiciary – scored less. This was because they are novel ideas and require a lot more transactional costs in order to be realised.

These solutions were then presented to the BIOFIN core team consisting of UNDP, EPU, NRE, MOF, who gave their comments, but mainly suggested that these be presented to the BIOFIN participants at June workshop. At the workshop, the participants and members of the core team provided input and comments on the various solutions and suggested their Top 3 solutions that they would like to see implemented.

Scaling up of MBEON, Coordinating NCTF and other trust funds and the setting up of innovation challenge funds for biodiversity scored the top three places. Disaster risk insurance was removed due to its unlikely feasibility in the near future based on the participants' and experts' feedback.

### Stakeholders and sources of evidence

Initially, desk research was carried out to document as much information as possible about the financial solutions. Once they were presented to the participants, all the organisations that either self-identified with the solutions, or that the project team identified as relevant gave inputs. They either their opinions on the feasibility of the solution, constructive criticism, and for the solutions that are tapping into existing mechanisms, they pointed out existing key challenges, and questioned whether the solution is meant to solve it. They also suggested additional stakeholders to include in the process if these solutions are to be carried forward.

Upon gathering and including this feedback, the BFP was further refined and sent back to the core team and participants for their final validation and review. After this last round of comments and approval, the biodiversity finance plan is finalised and submitted.

### Main findings of the BIOFIN assessments

BIOFIN is a good way to systematically plan and budget for future biodiversity activities, and to enable collaborations. It helps identify overlaps in priorities, targets and expected outcomes. Different organisations can play different roles towards achieving similar outcomes. In this sense, BIOFIN is a systematic means of identifying where collaborations are key.