

What is Biodiversity?



BIODIVERSITY

Biodiversity is the variety of life on earth including plants, animals, and microorganisms, which refers to diversity within species, between species, and of ecosystems.

Biodiversity in Thailand



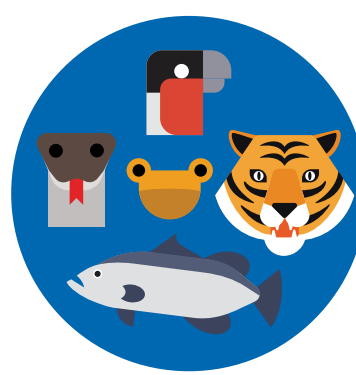
Vascular plants,
gymnosperms, ferns
10,250 species



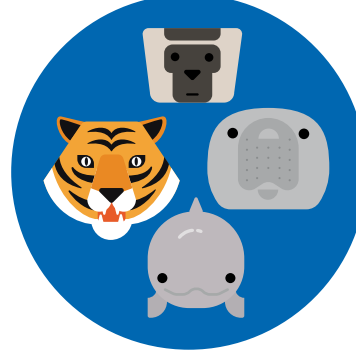
Colored Mosses, liverworts,
seaweeds, mushrooms, lichens
No less than
5,000 species



Insects, shells, prawns,
crabs, corals
No less than
124,526 species
12% of all species on earth



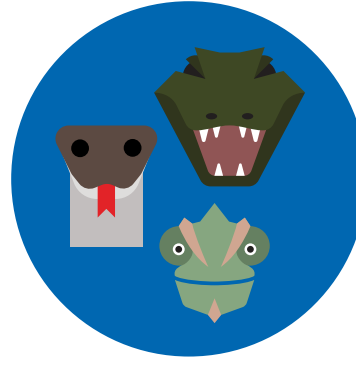
Vertebrates
4,738 species
8% of all species on earth



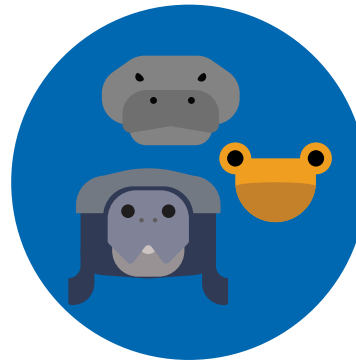
Mammals
345 species



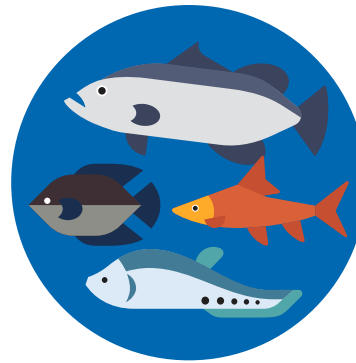
Birds
1,016 species



Reptiles
393 species



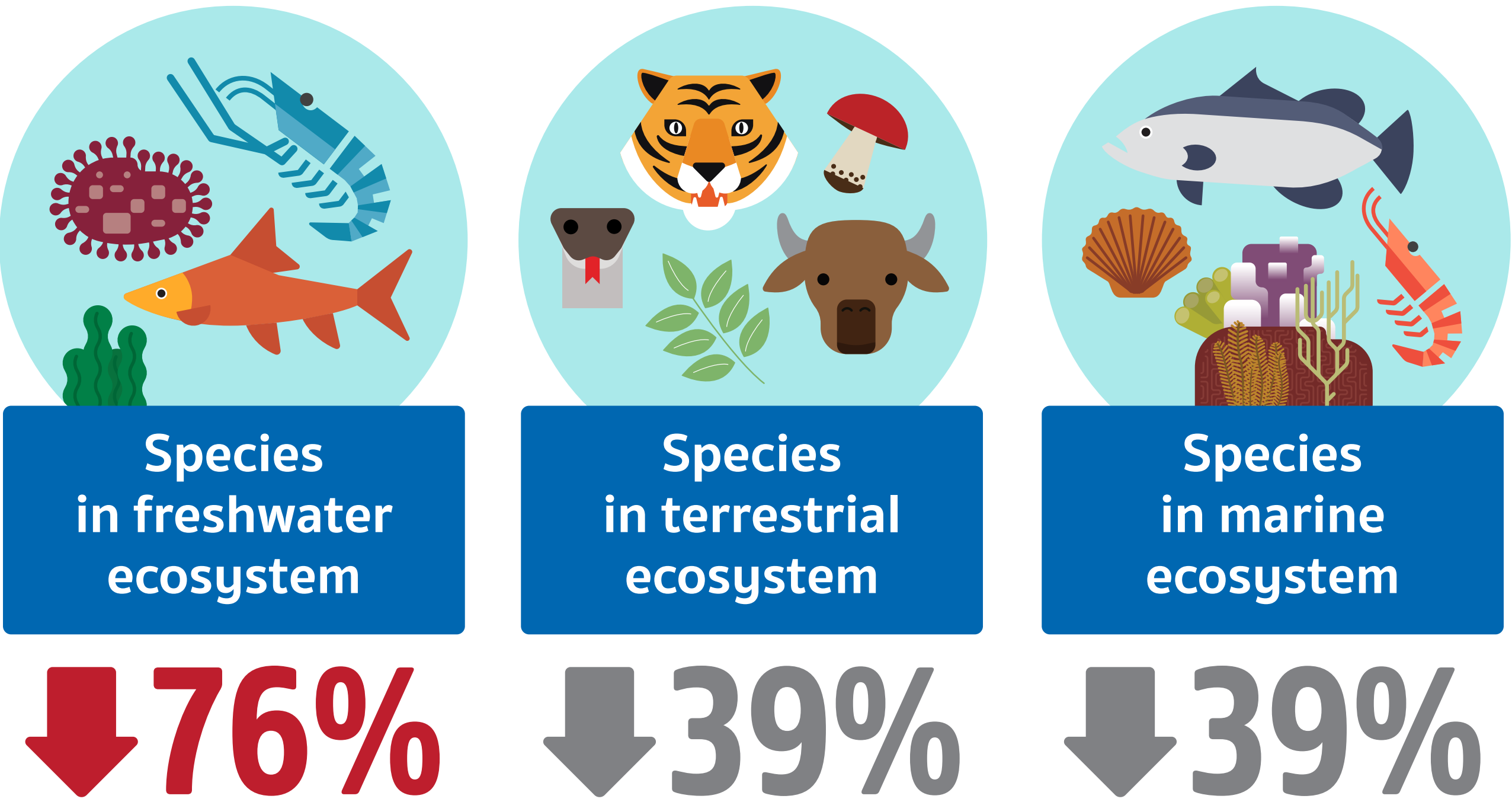
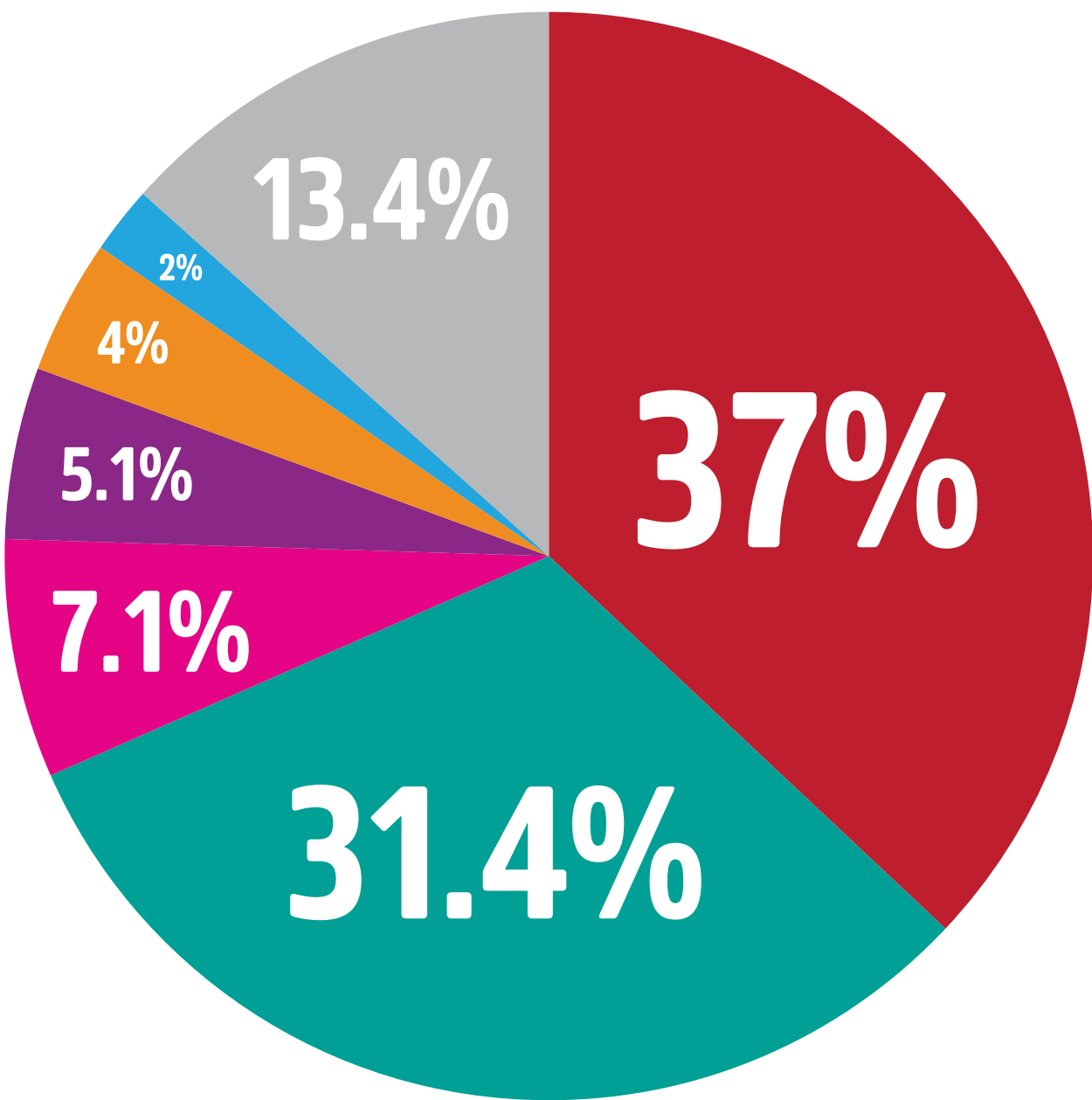
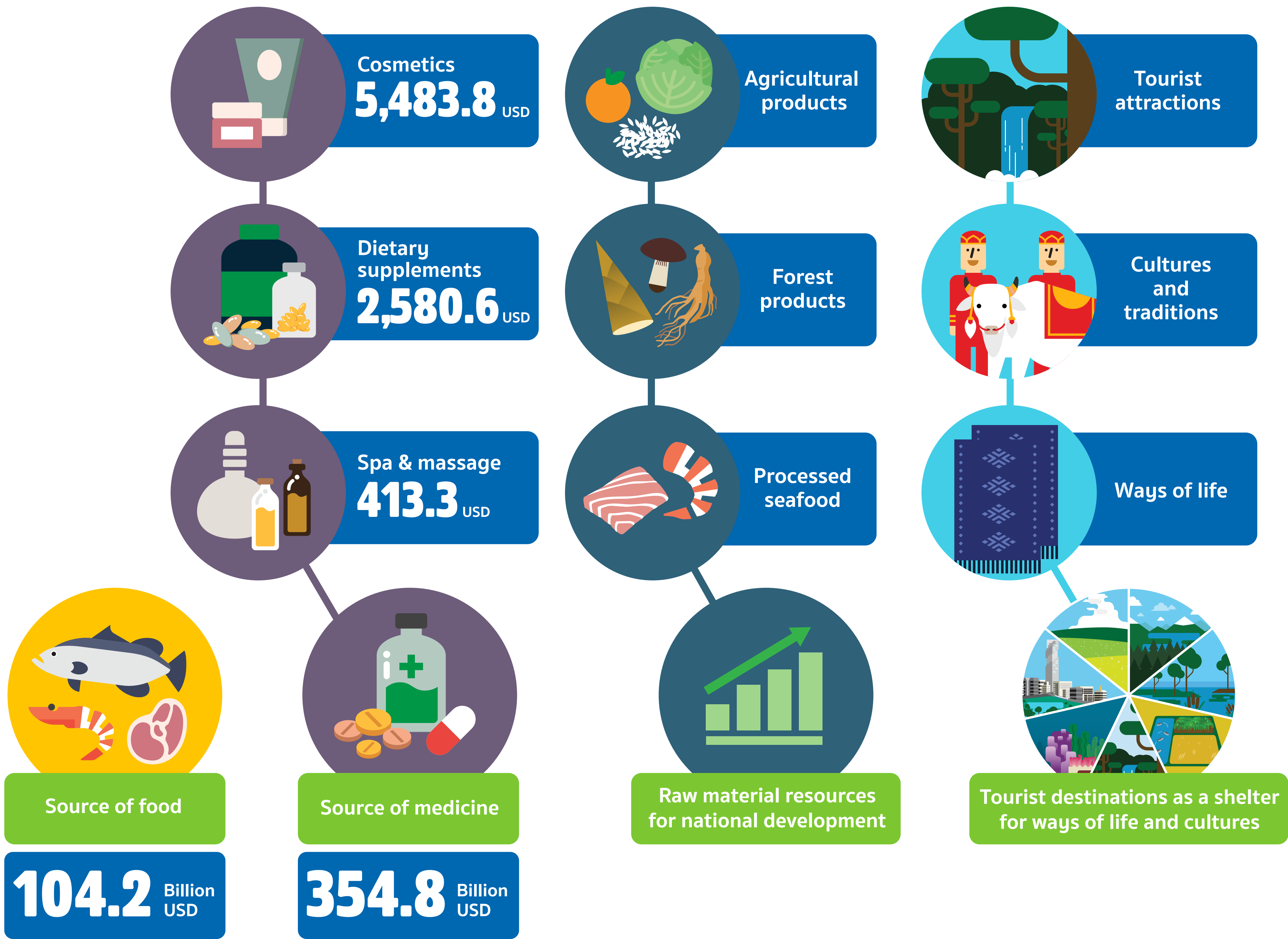
Amphibians
159 species



Fish
2,825 species

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The Benefits of Biodiversity and the Cause of the Decline in Population of Organisms



- Excessive consumption
- Decadence and natural habitat change
- Climate change
- Invasive species or genes
- Pollutions
- Epidemics
- Etc.

*Living Planet Index by WWF in 2014

The Cause of the Decline in Biodiversity Resources



Porported Benefits of Tigers

Crucial Benefits of Tigers

Tigers give balance to well-being of lives in an ecosystem. However, benefits of tiger are the tip of the iceberg, where only a small part of a very much larger foundation hidden underneath the water is visible. As a result, tiger has been exploited without any senses of sustainability. Exploitations other animals and plants are similar since only a small part of their benefits are seen and obtained.

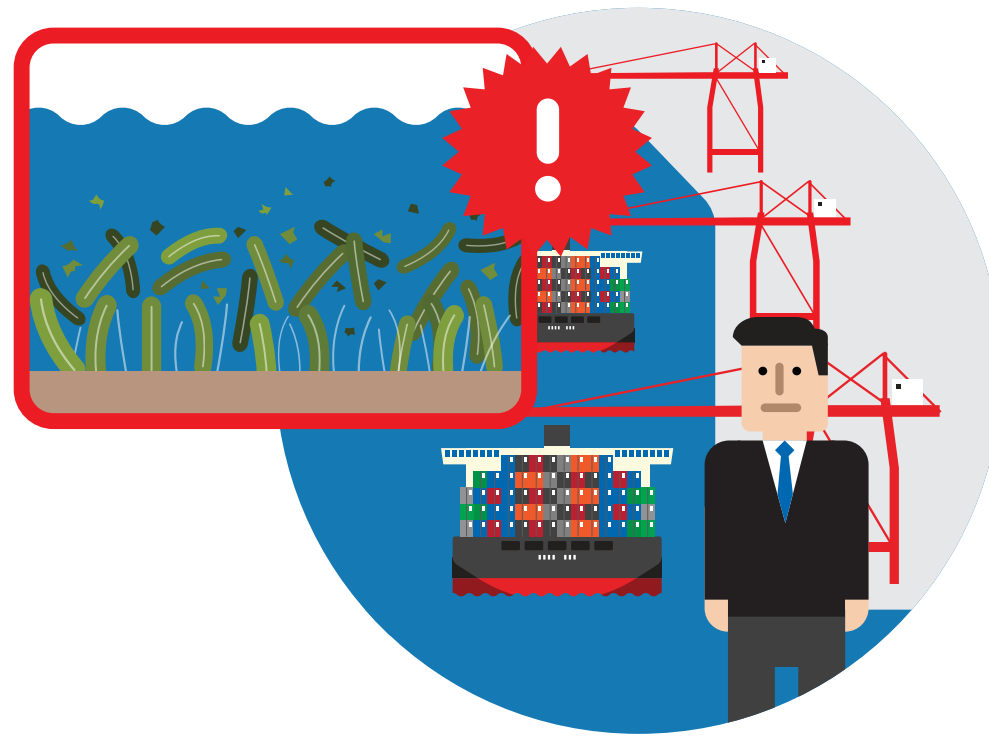
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How Human are destroying Biodiversity

1. Physical Infrastructure Development



Environmental impact on forests from dams and reservoirs



Seagrass destruction from deep water ports



Road and railway construction

2. Over-consumption



Illegal wildlife trade



Illegal deforestation of valuable wood trees

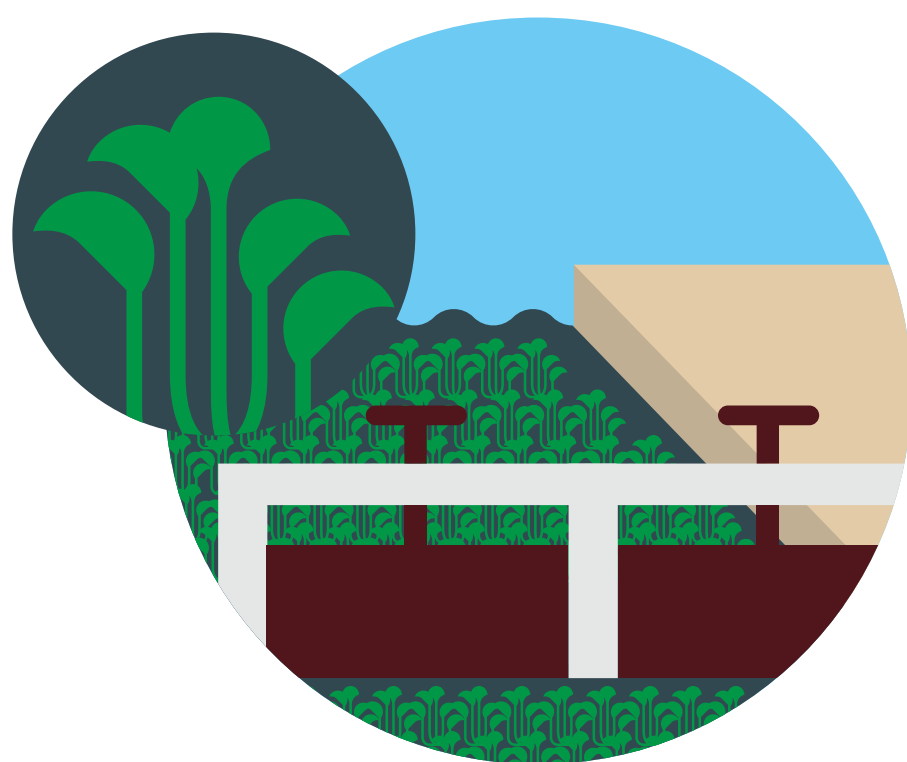


Rare wild orchid smuggling



Fisheries in areas beyond national jurisdiction

3. Pollution



Invasion of Alien Species ex. Water Hyacinth



Air pollution

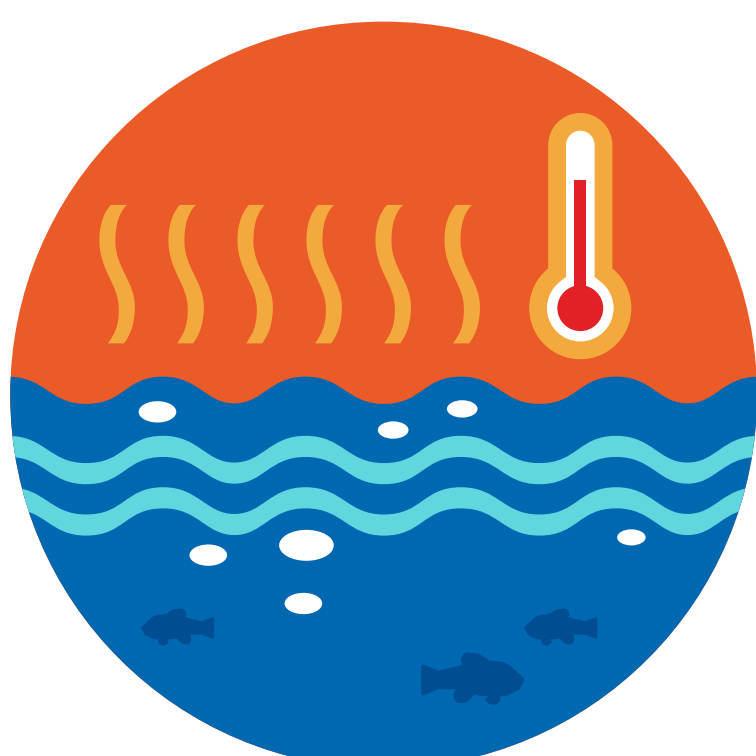


Marine pollution e.g. offshore oil and gas drilling



Agricultural pollution from pesticides and herbicides

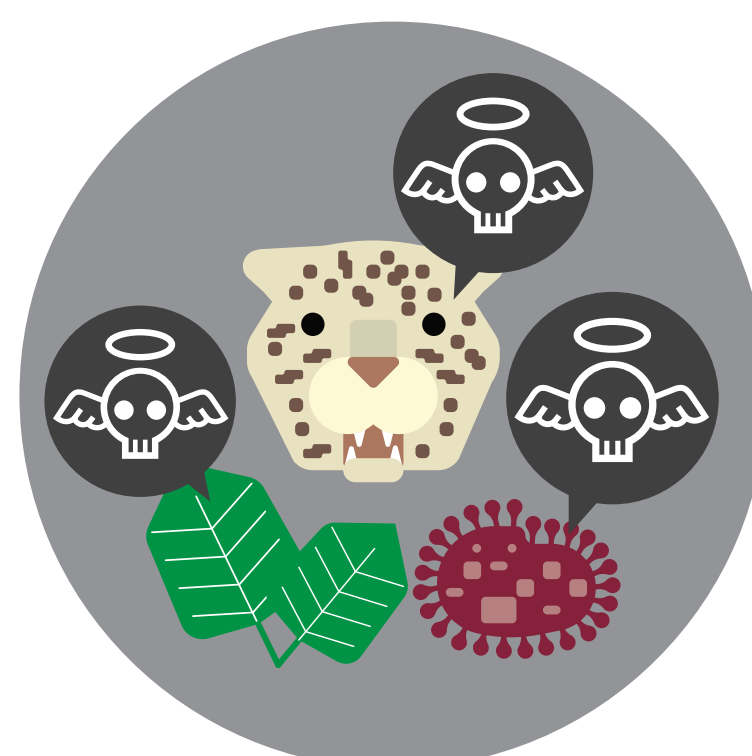
4. Climate Change



Ocean Warming



Coral Bleaching



Decline in population of organisms due to ecological imbalance



Lack of food security

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Origin of CBD (Convention on Biological Diversity) and BIOFIN



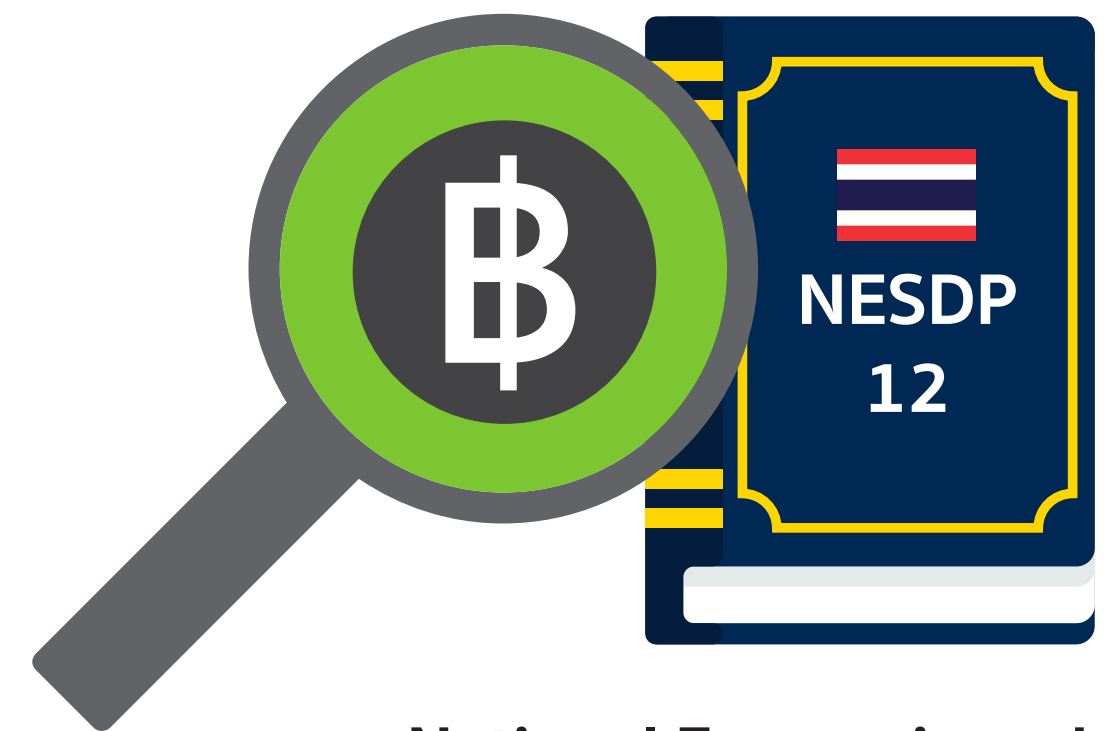
30 BIOFIN countries

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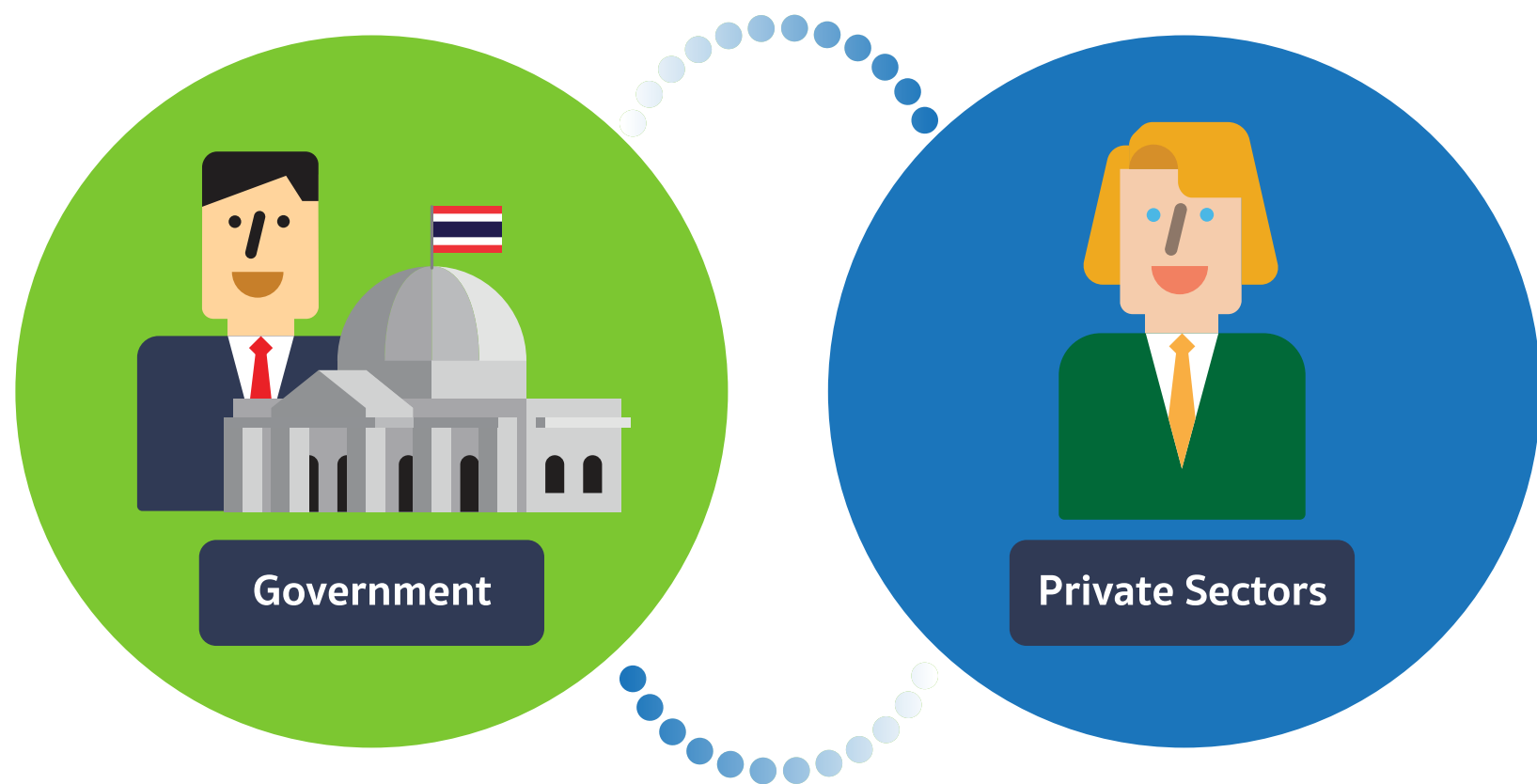
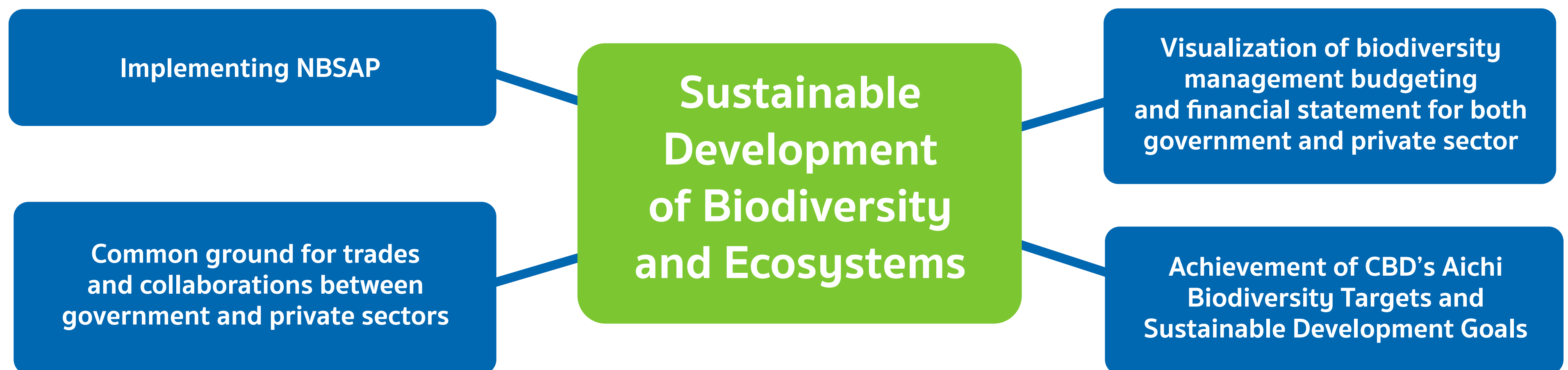
What is the Role of BIOFIN in Thailand?



Understanding of policy framework and domestic institutional structure



National Economic and Social Development Plan (NESDP)



Advantages of BIOFIN

A big picture of procedures enable people involved to shape a harmonized working direction that effects aimed results

BIOFIN is the key finance solution to the problems we are now facing

BIOFIN Thailand's key findings

1. Estimated aggregate expenditure on biodiversity (2011–2015):
1,428.46 million USD (48,492 million Baht)
2. Average annual expenditure on biodiversity as percentage of GDP: 0.08% of GDP
3. Aggregated total cost of the NBSAP (2016–2021):
697.67 million USD (23,679 million Baht)
4. Aggregated financial gap (2019–2021):
1,509.87 million USD (51,245 million Baht)

exchange used for conversion is the average for 2016 from the Bank of Thailand
@ 1 USD: 33.94 Baht

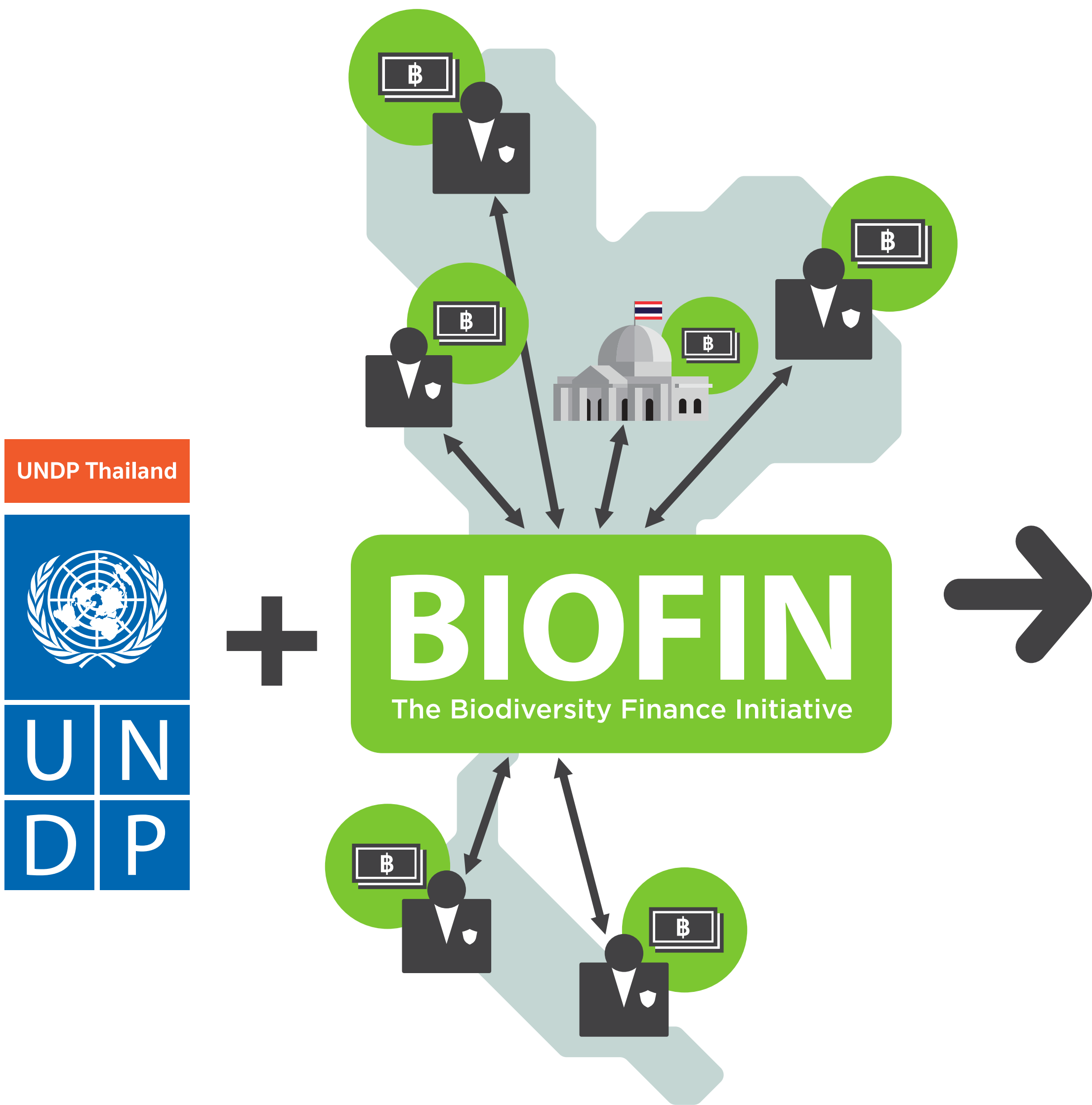
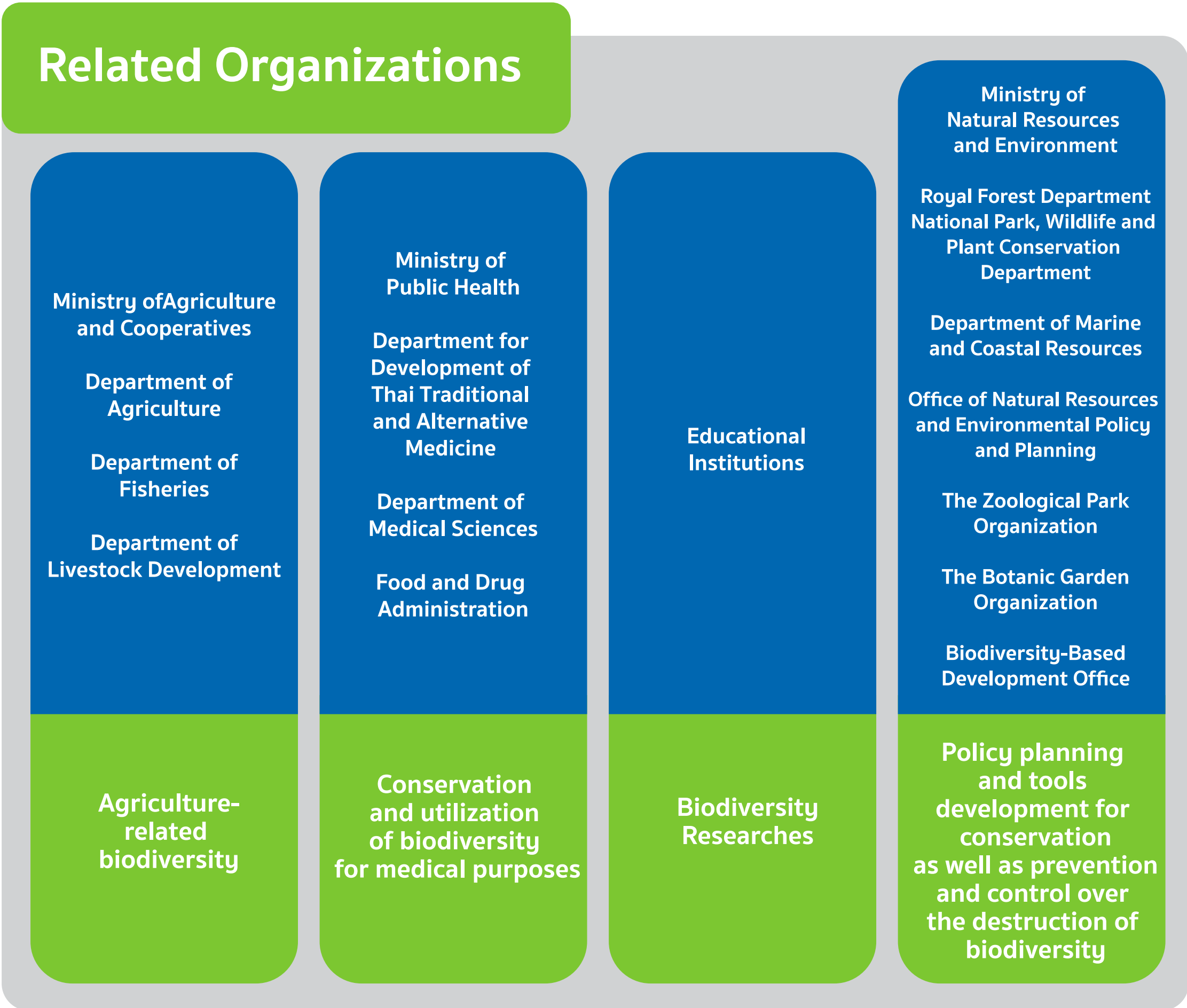


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BIOFIN in Thailand



Key Organizations in Thailand



5 Steps to BIOFIN Solutions



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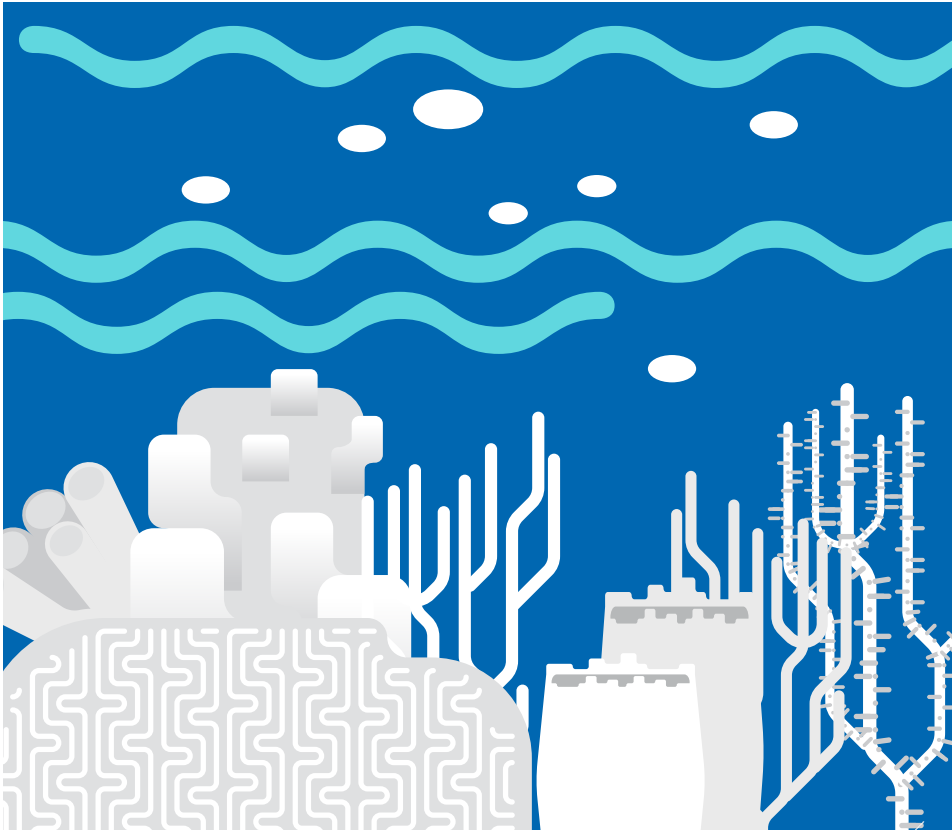
Pilot Projects of BIOFIN Thailand



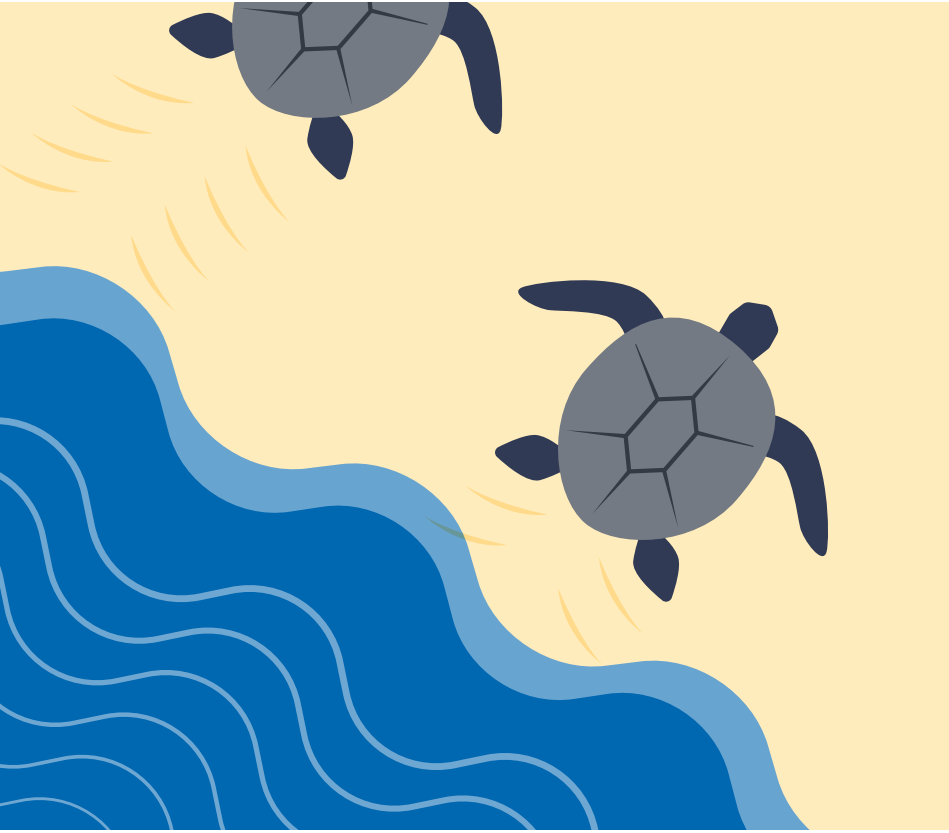
Piloting Project Koh Tao

Payment for marine and coastal ecosystem services

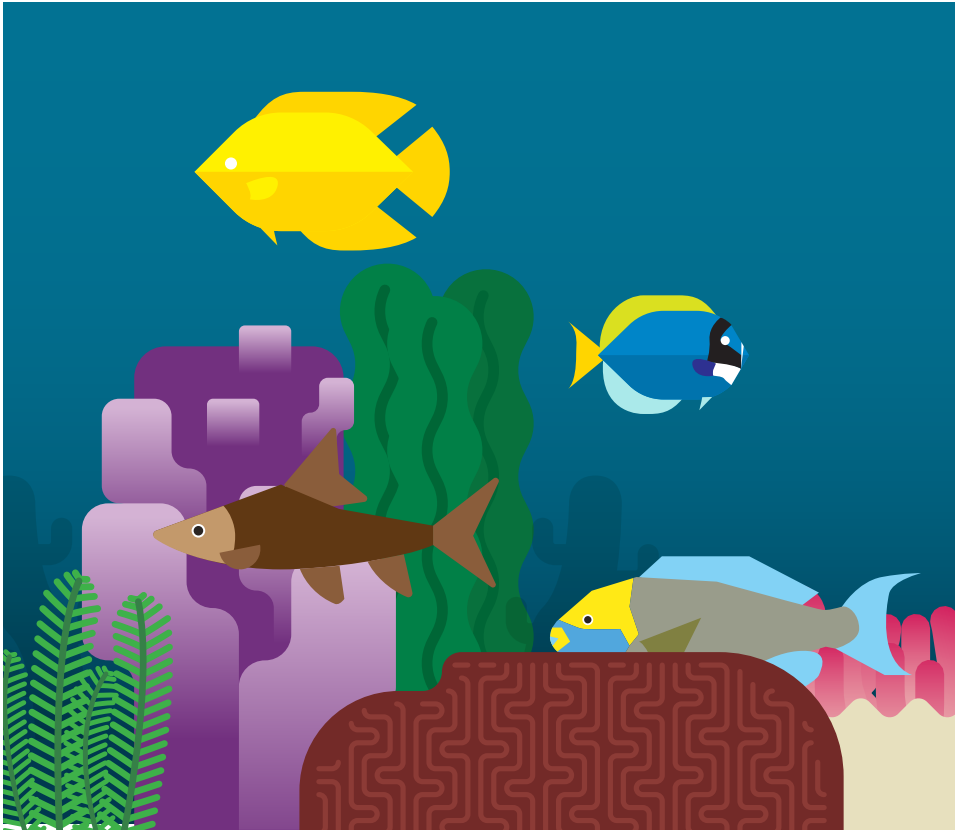
Improving the financial viability of the Koh Tao Coral Reefs through improving multiple financing mechanisms.



Restoration of coral reefs



A comprehensive marine turtle conservation program



Strengthening the resilience of marine and coastal ecosystem



Reducing sources of land-based pollution and thus prevent any potential harm or damage to coastal resources

Piloting Project Bangpakong River Estuary

Bangpakong river is an area that has been recognized as an important wetland ecosystem and habitat for more than 280 fresh and brackish water aquatic species, including the fresh water manta rays and the Irrawaddy dolphin. One of the threats to the river and estuary ecosystems, however, is the discharge of unthreated wastewater from industrial, commercial, agriculture, and residential sectors.

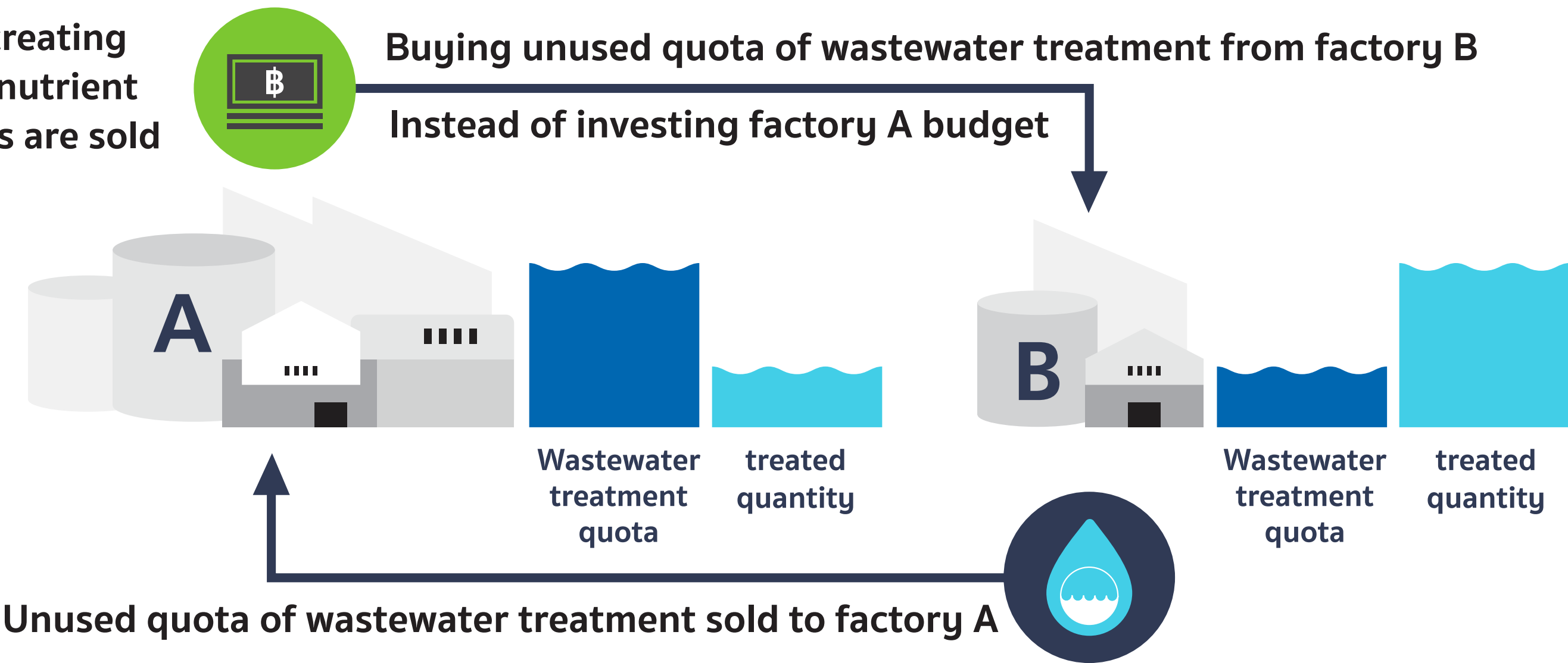
Nutrient Trading : Creating a Market for Wastewater Treatment in Bangpakong River



Nutrient Trading

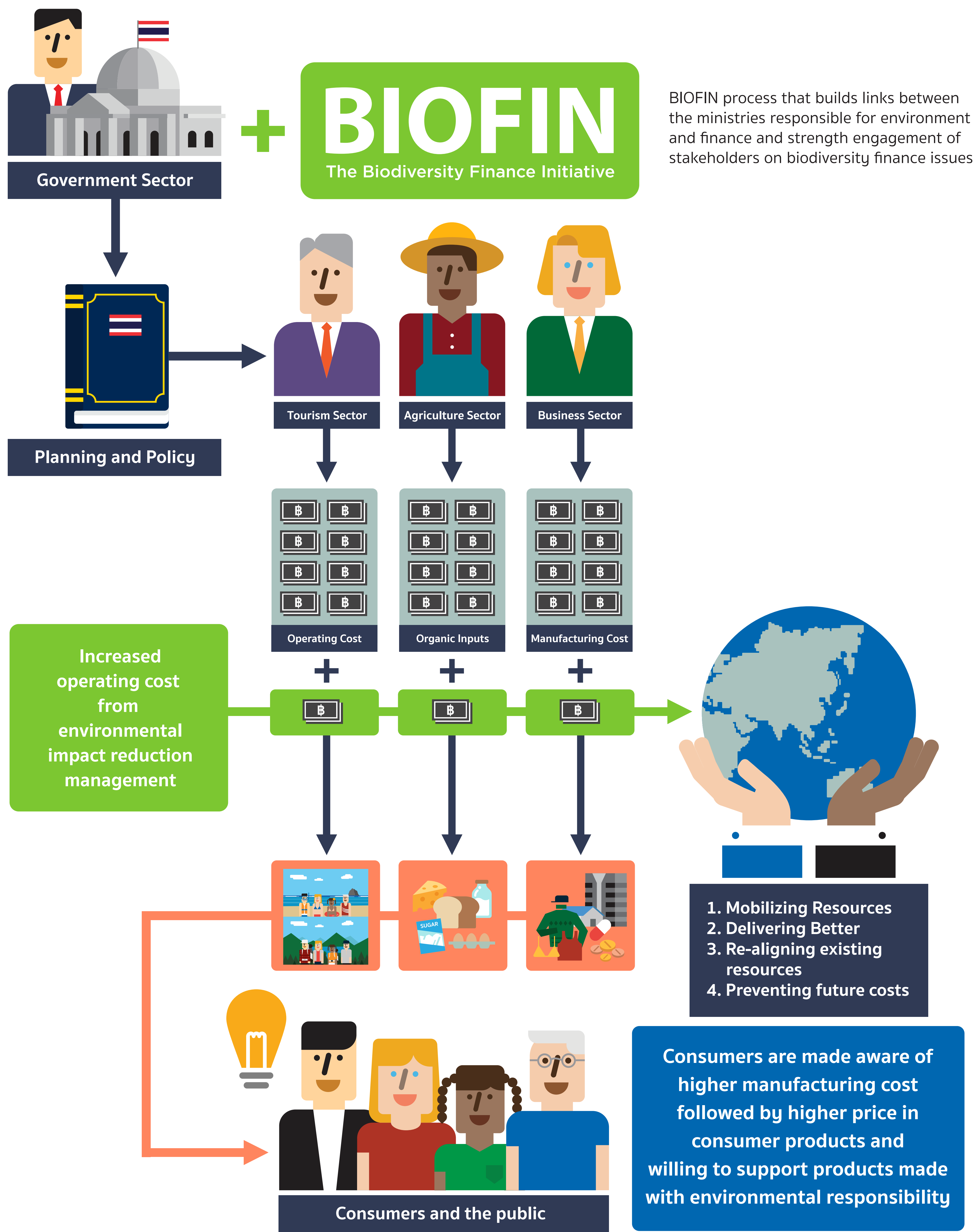
The concept of finance solutions to motivate investment in water quality improvement and generate price mechanism in support of regulatory standards for wastewater discharge to natural water bodies

The concept of creating a market where nutrient reduction credits are sold



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BIOFIN Process that ensure the institutionalization and sustainability of BIOFIN results.



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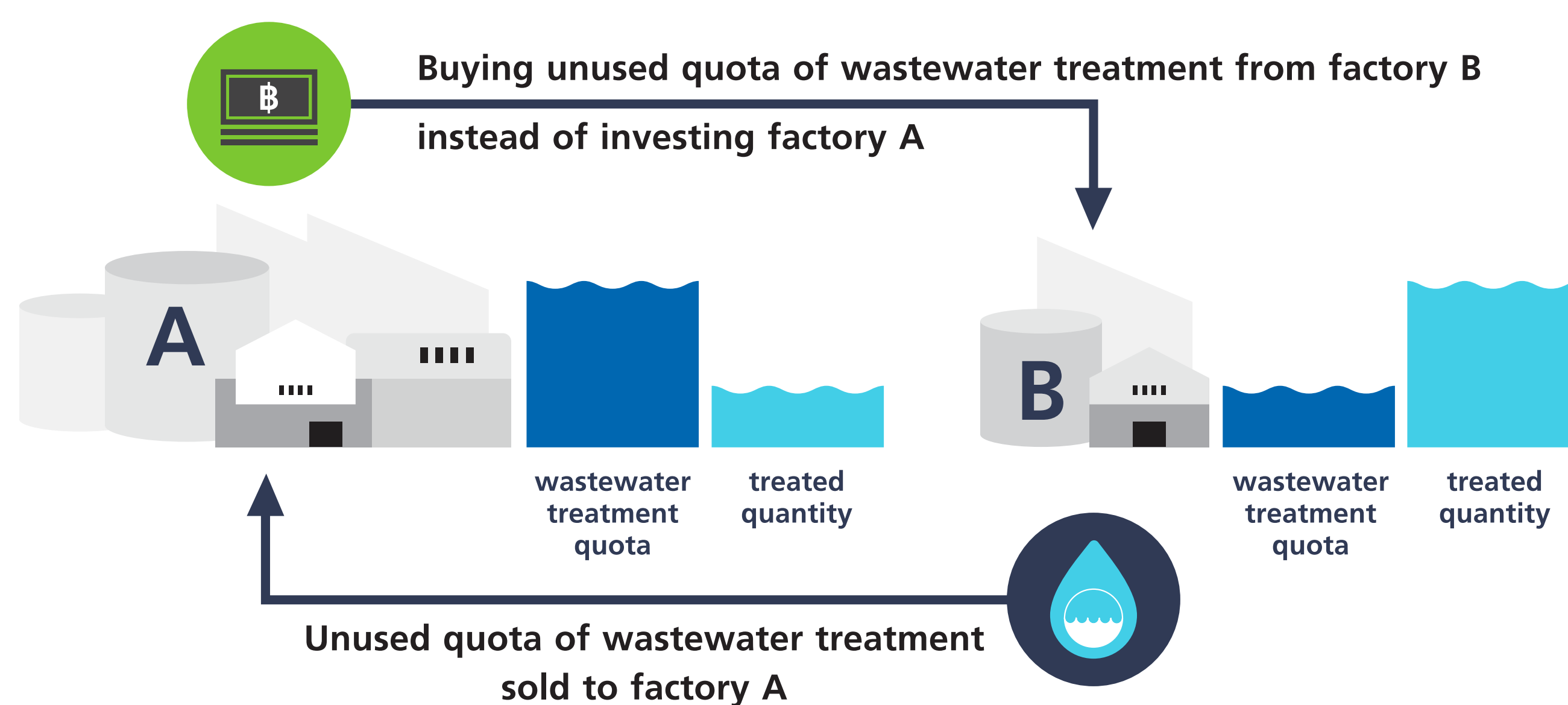
PES (Payment for Ecosystem Services)

The solution that is based on the idea that whoever preserves or maintains an ecosystem service should be paid for doing so. Payments for ecosystem services (PES) occur when a beneficiary or user of an ecosystem service makes a direct or indirect payment to the provider of that service. The payment should be sufficient and appropriate enough to create economic motivation to the service providers



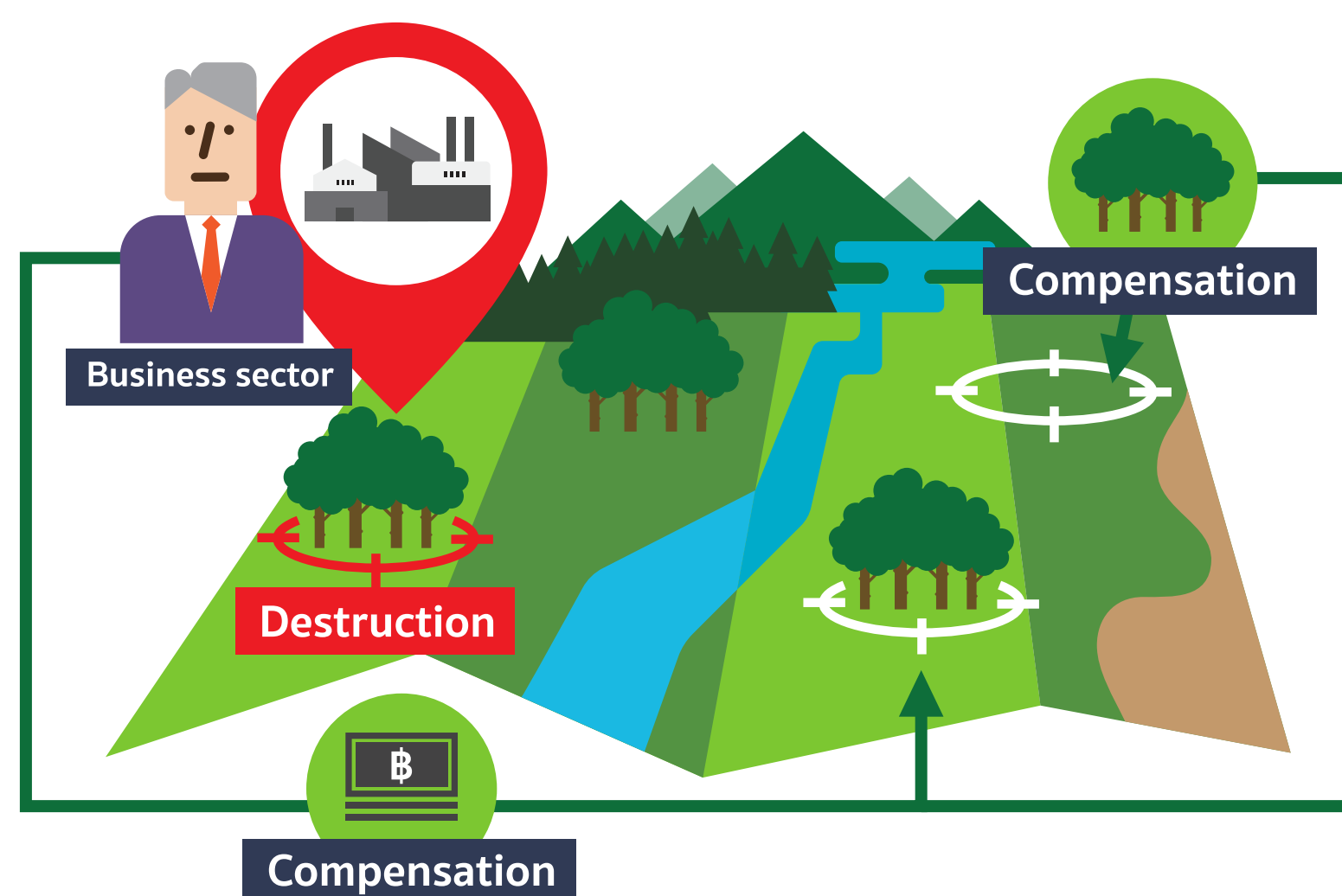
Nutrient Trading

The concept of finance solutions to motivate investment in water quality improvement and generate price mechanism in support of regulatory standards for wastewater discharge to natural water bodies



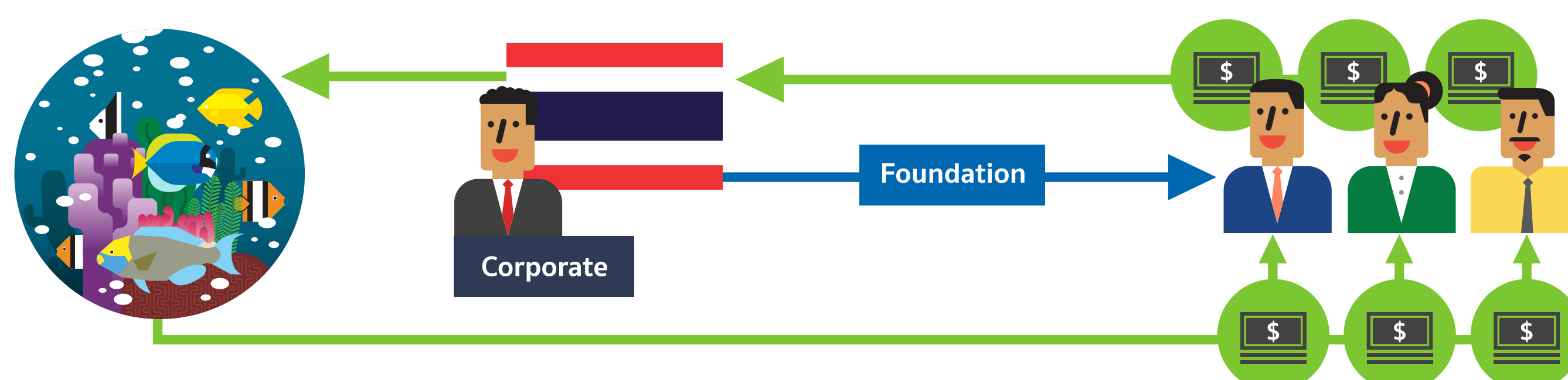
Biodiversity Offsets

Mechanism that guarantees non-negative environmental impacts to biodiversity of any projects and allows opportunities for rather positive environmental impacts



Corporate and corporate foundations' donations

Corporations provide support to nonprofits through direct-giving programs, private foundations, and/or public charities. They can also offer their employees' time. A foundation can be established as part of a company's corporate social responsibility (CSR) strategy and be funded via the allocation of a percentage of accrued profits, an endowment or other means. They may or may not have a specific mandate or geographic coverage. Some focus on biodiversity and conservation.



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