What is Biodiversity?

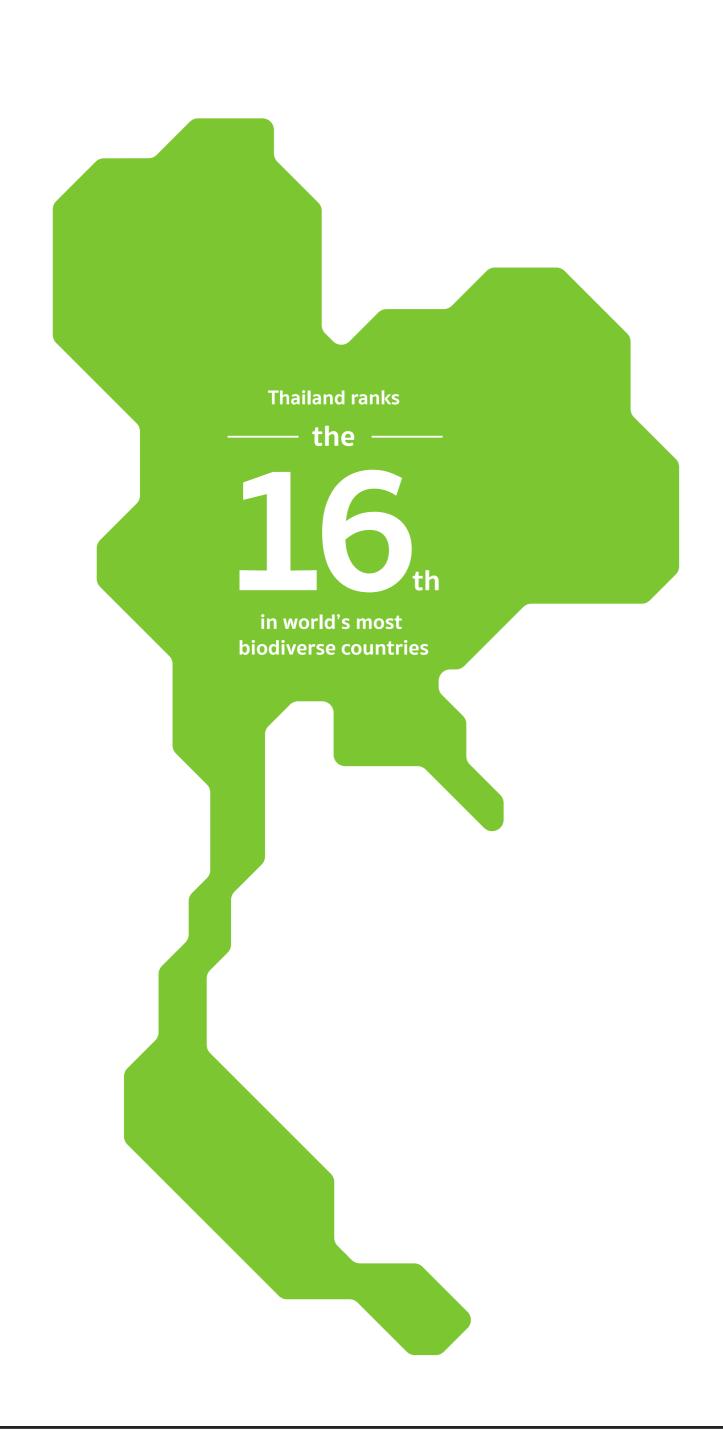




BIODIVERSITY

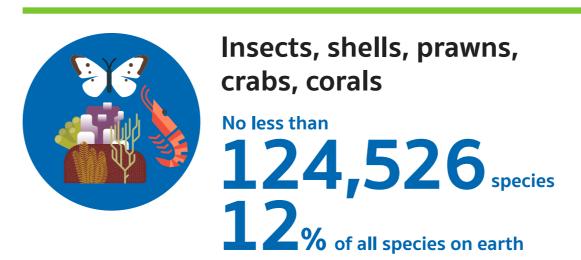
Biodiversity is the variety of life on earth including plants, animals, and microorganisms, which refers to diversity within species, between species, and of ecosystems.

Biodiversity in Thailand



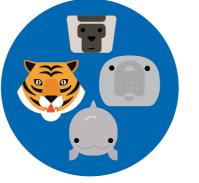








Vertebrates
4,738 species
8% of all species on earth



Mammals 345 species



Birds
1,016 species



Reptiles
393 species

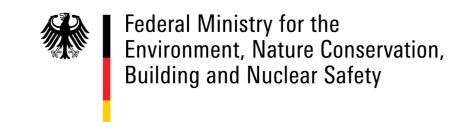


Amphibians 159 species



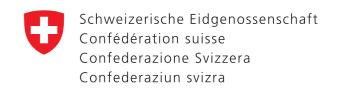
Fish **2,825** species





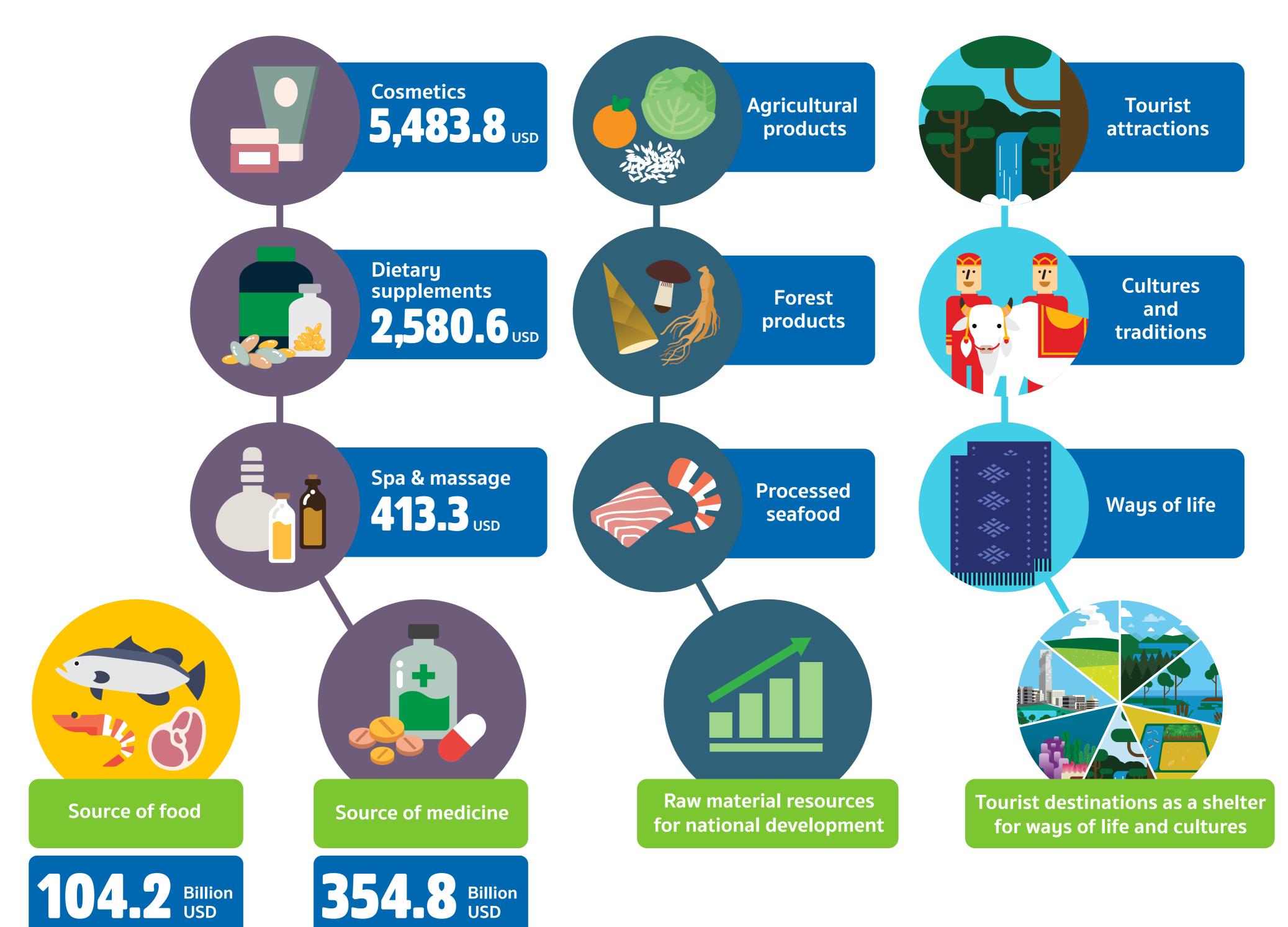


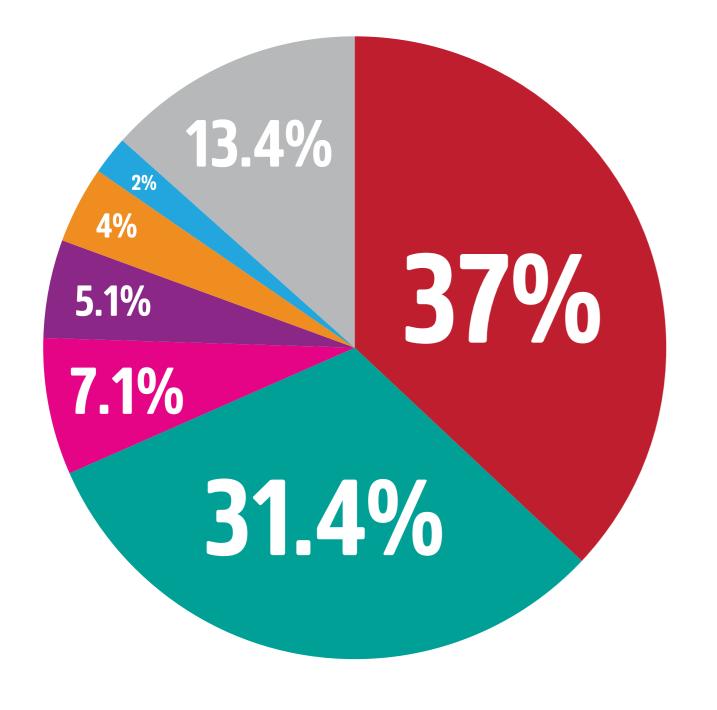




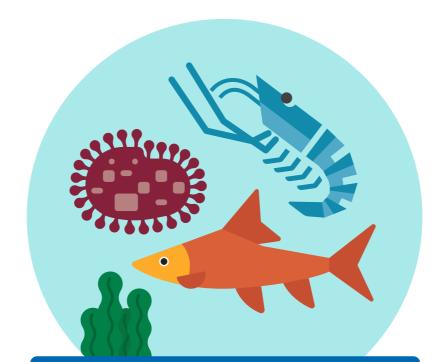
The Benefits of Biodiversity and the Cause of the Decline in Population of Organisms







- Excessive consumption
- Decadence and natural habitat change
- Climate change



Species in freshwater ecosystem

476%



Species in terrestrial ecosystem

439%



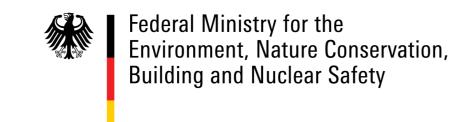
Species in marine ecosystem

439%

*Living Planet Index by WWF in 2014

Designed by: Cadson Demak, Thailand.





Invasive species

or genes

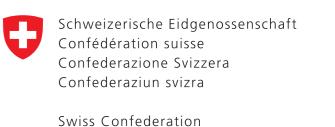
Pollutions

Epidemics

Etc.

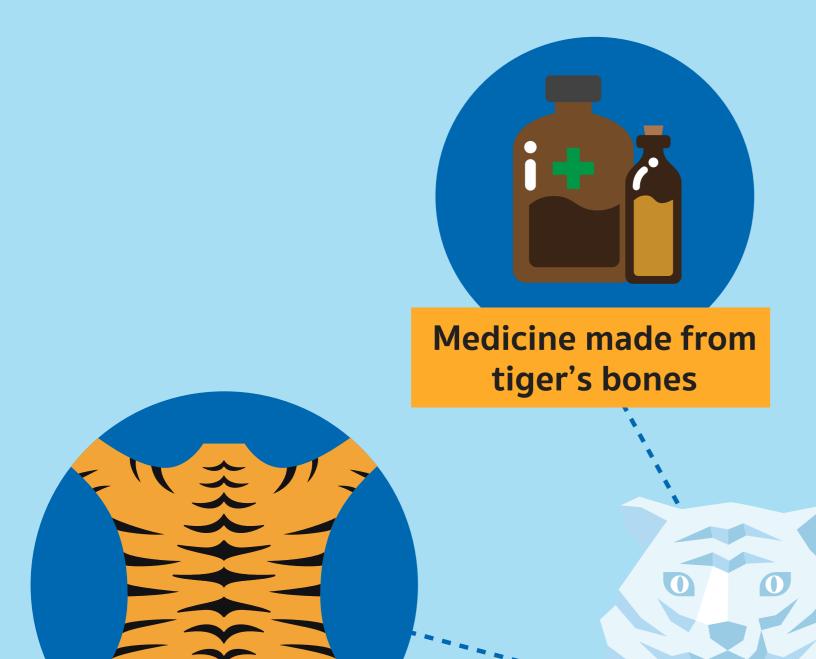






The Cause of the Decline in Biodiversity Resources





Tiger's skin



parts of tiger's head

Porported Benefits of Tigers



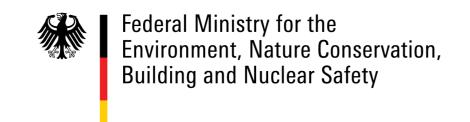
Tiger's fang talismans



Crucial Benefits of Tigers

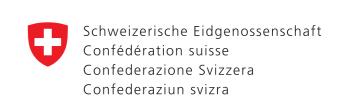
of lives in an ecosystem. However, benefits of tiger are the tip of the iceberg, where only a small part of a very much larger foundation hidden underneath the water is visible. As a result, tiger has been exploited without any senses of sustainability. Exploitations other animals and plants are similar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











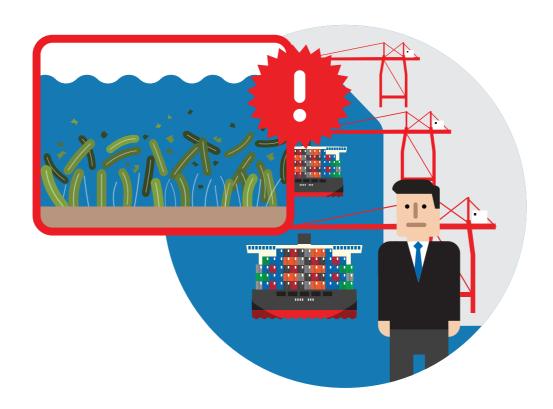
How Human are destroying Biodiversity



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

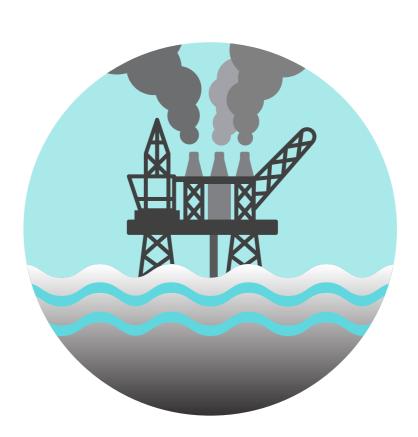
3. Pollution



Invasion of Alien Species ex. Water Hyacinth



Air pollution

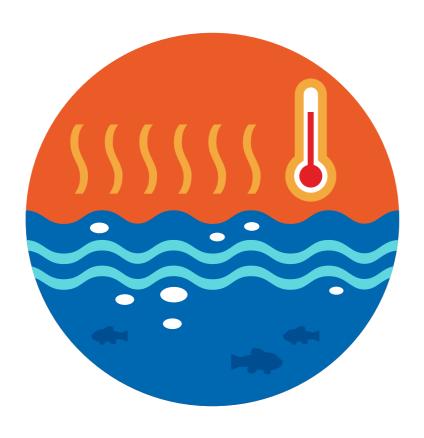


Marine pollution e.g. offshore oil and gas drilling



Agricultural pollution from pesticides and herbicides

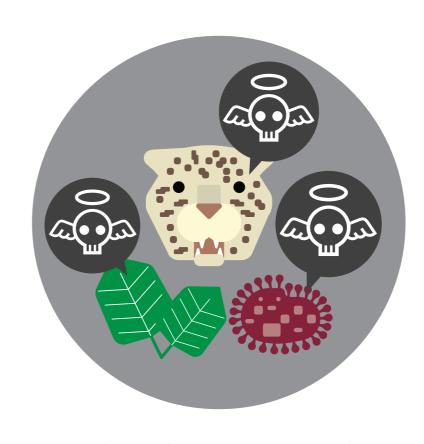
4. Climate Change



Ocean Warming



Coral Bleaching

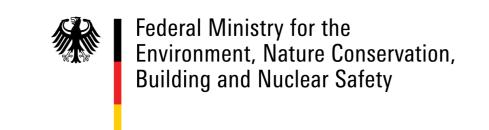


Decline in population of organisms due to ecological imbalance



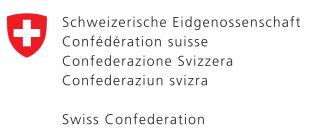
Lack of food security











Origin of CBD (Convention on Biological Diversity) and BIOFIN







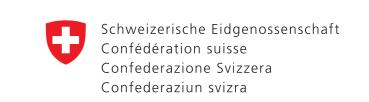
30 BIOFIN countries





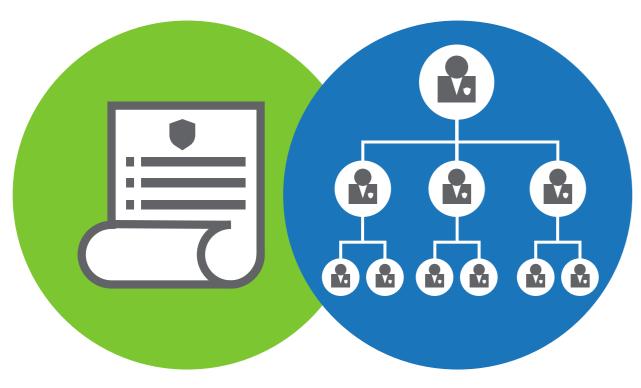






What is the Role of BIOFIN in Thailand?





Understanding of policy framework and domestic institutional structure

Implementing NBSAP

Common ground for trades and collaborations between government and private sectors

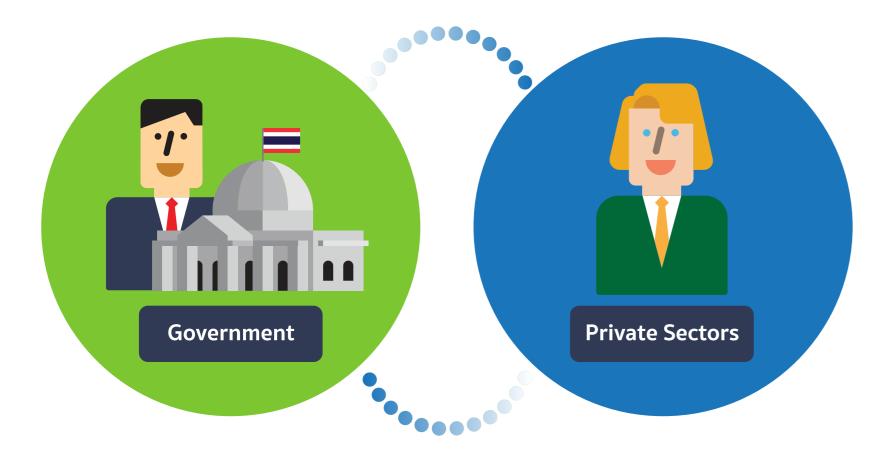
Sustainable
Development
of Biodiversity
and Ecosystems

R NESDP 12

National Economic and Social Development Plan (NESDP)

Visualization of biodiversity management budgeting and financial statement for both government and private sector

Achievement of CBD's Aichi Biodiversity Targets and Sustainable Development Goals





Advantages of BIOFIN

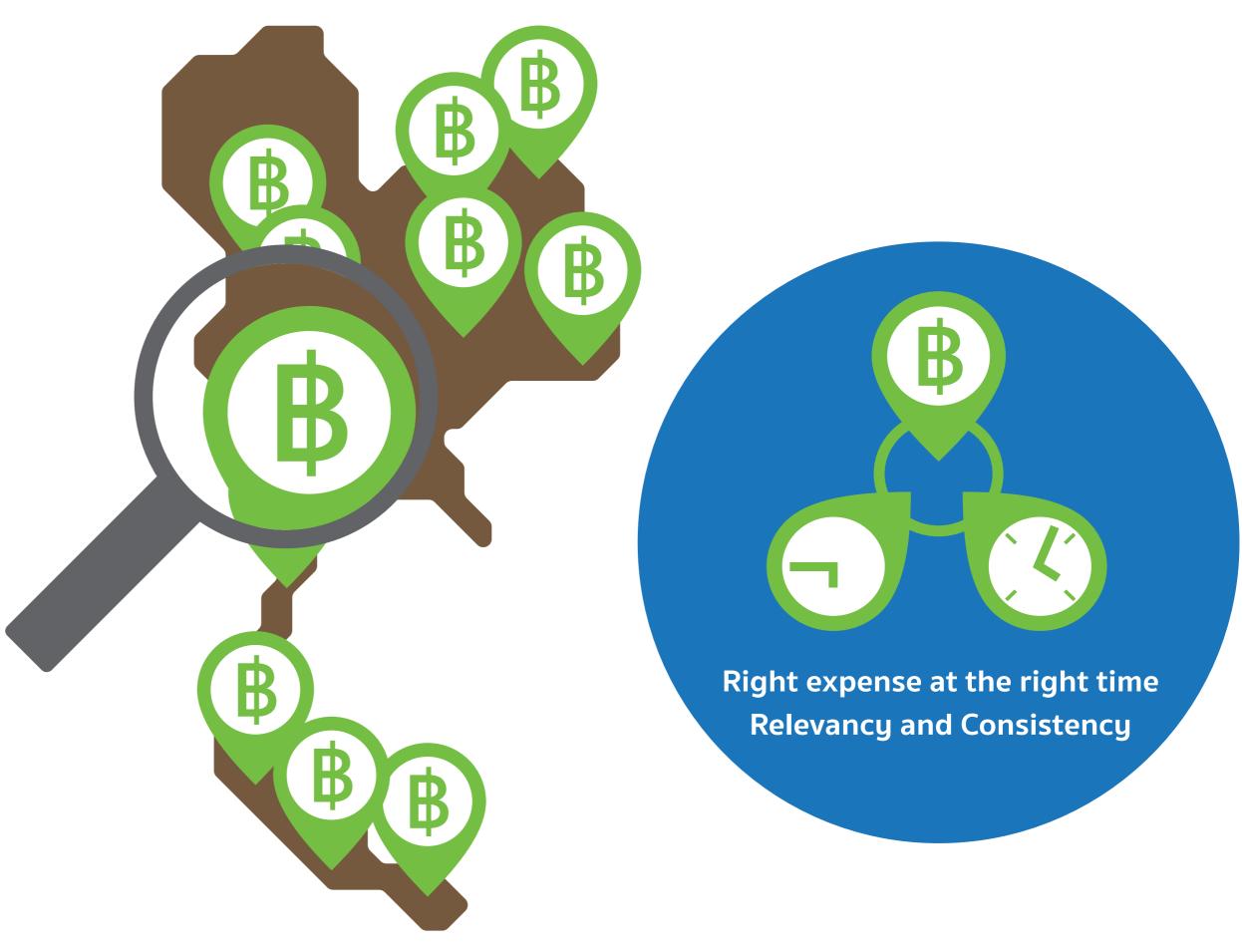
A big picture of procedures enable people involved to shape a harmonized working direction that effects aimed results

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

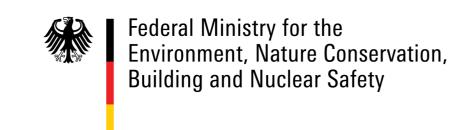
BIOFIN Thailand's key findings

- 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

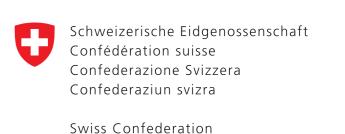












BIOFIN in Thailand





Convention on Biological Diversity Effective 29 January 2004

Key Organizations in Thailand





Office of the National Economic and Social Development Board Office of Natural Resources and Environmental Policy and Planning

Related Organizations

Ministry of Agriculture and Cooperatives

Department of Agriculture

Department of Fisheries

Department of Livestock Development

Agriculturerelated biodiversity Ministry of Public Health

Department for Development of Thai Traditional and Alternative Medicine

Department of Medical Sciences

Food and Drug Administration

Conservation and utilization of biodiversity for medical purposes

Ministry of Natural Resources and Environment

Royal Forest Department National Park, Wildlife and Plant Conservation Department

Department of Marine and Coastal Resources

Office of Natural Resources and Environmental Policy and Planning

The Zoological Park
Organization

The Botanic Garden Organization

Biodiversity-Based Development Office

Policy planning
and tools
development for
conservation
as well as prevention
and control over
the destruction of
biodiversity

5 Steps to BIOFIN Solutions

Educational

Institutions

Biodiversity

Researches

Policy and Institutional Review

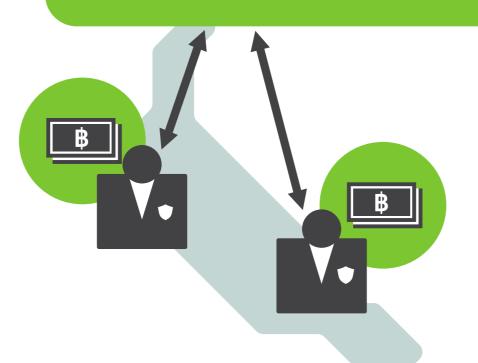
2

Biodiversity Expenditure Review



UNDP Thailand

BIOFIN
The Biodiversity Finance Initiative



3

Financial Needs Assessment

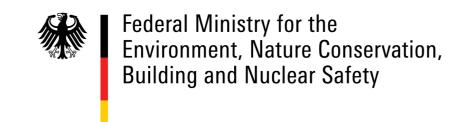
4

Finance Plan

5

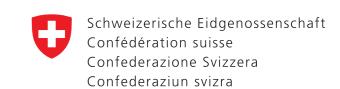
Finance Solutions











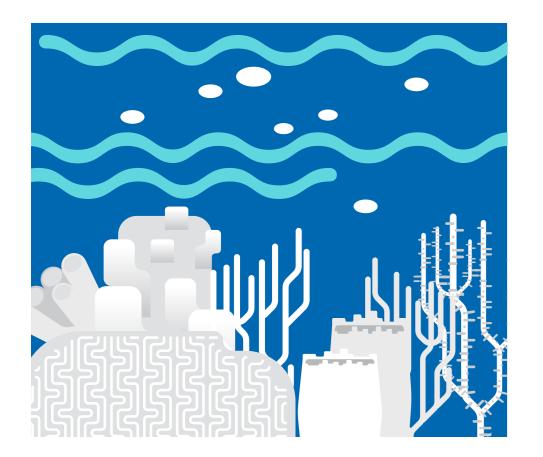
Pilot Projects of BIOFIN Thailand



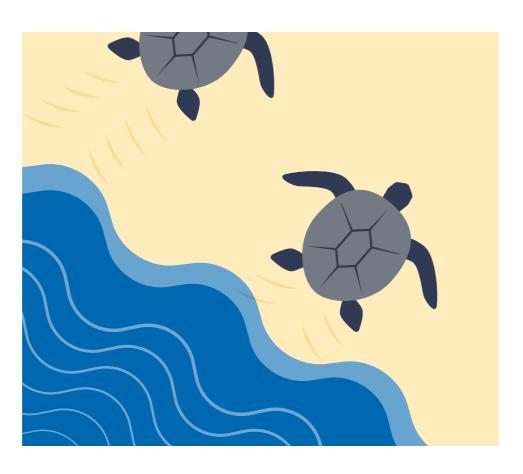
Piloting Project Koh Tao

Payment for marine and coastal ecosystem services

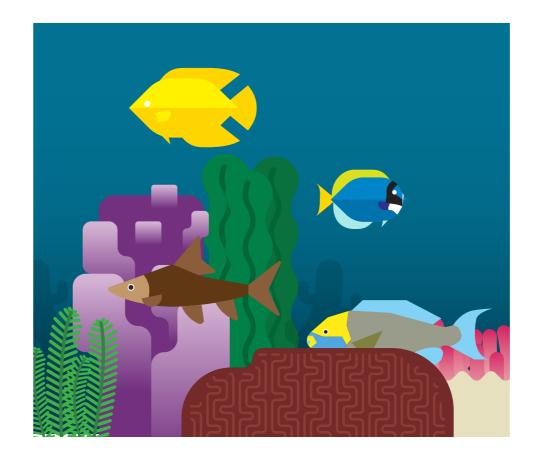
Improving the financial viability of the Koh Tao Coral Reefs through improving multiple financing mechanisms.



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

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

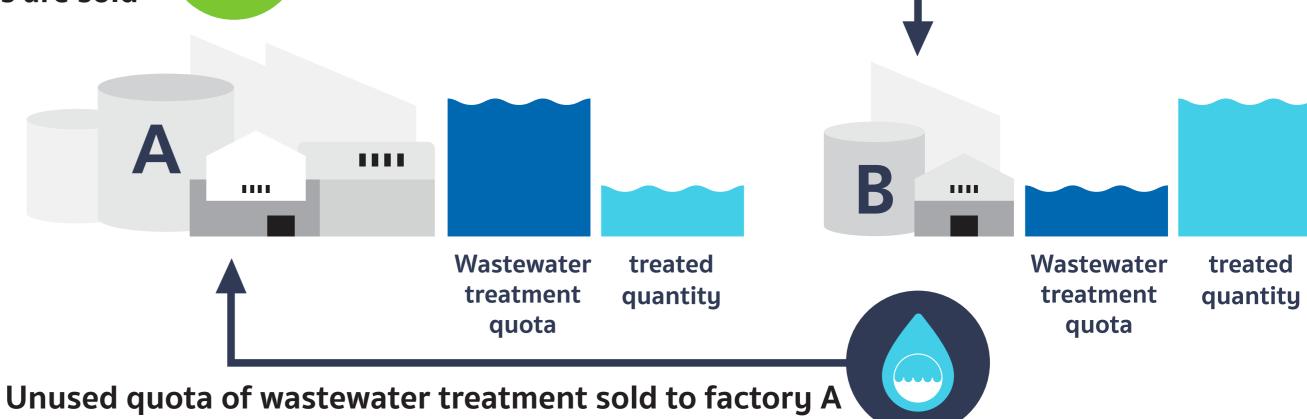


Nutrient Trading

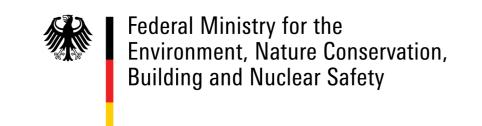
The concept of creating a market where nutrient reduction credits are sold

Buying unused quota of wastewater treatment from factory B
Instead of investing factory A budget

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

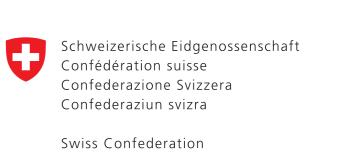






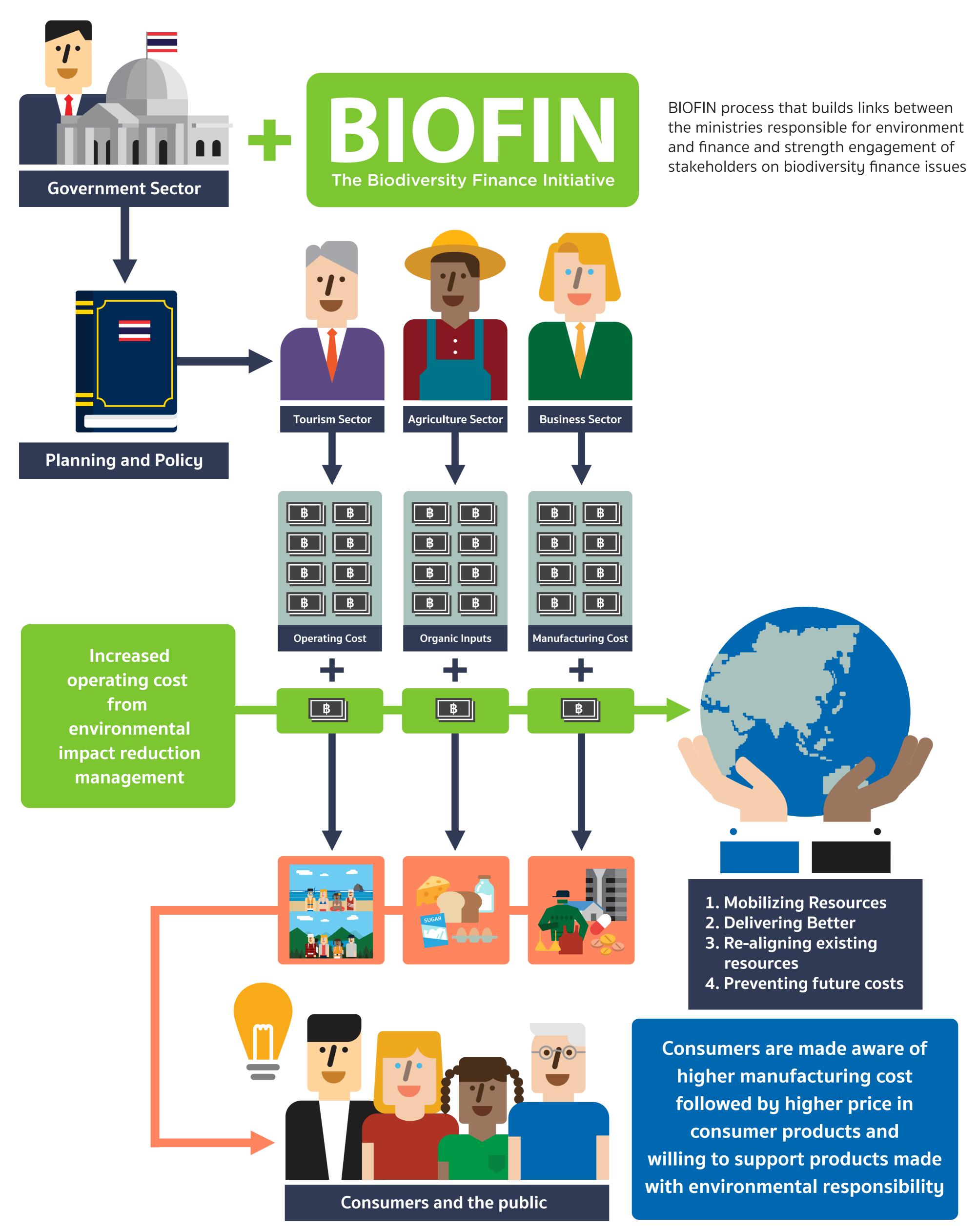






BIOFIN Process that ensure the institutionalization and sustainability of BIOFIN results.





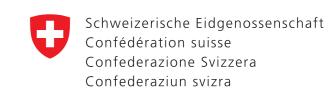












Biodiversity Financial Solution



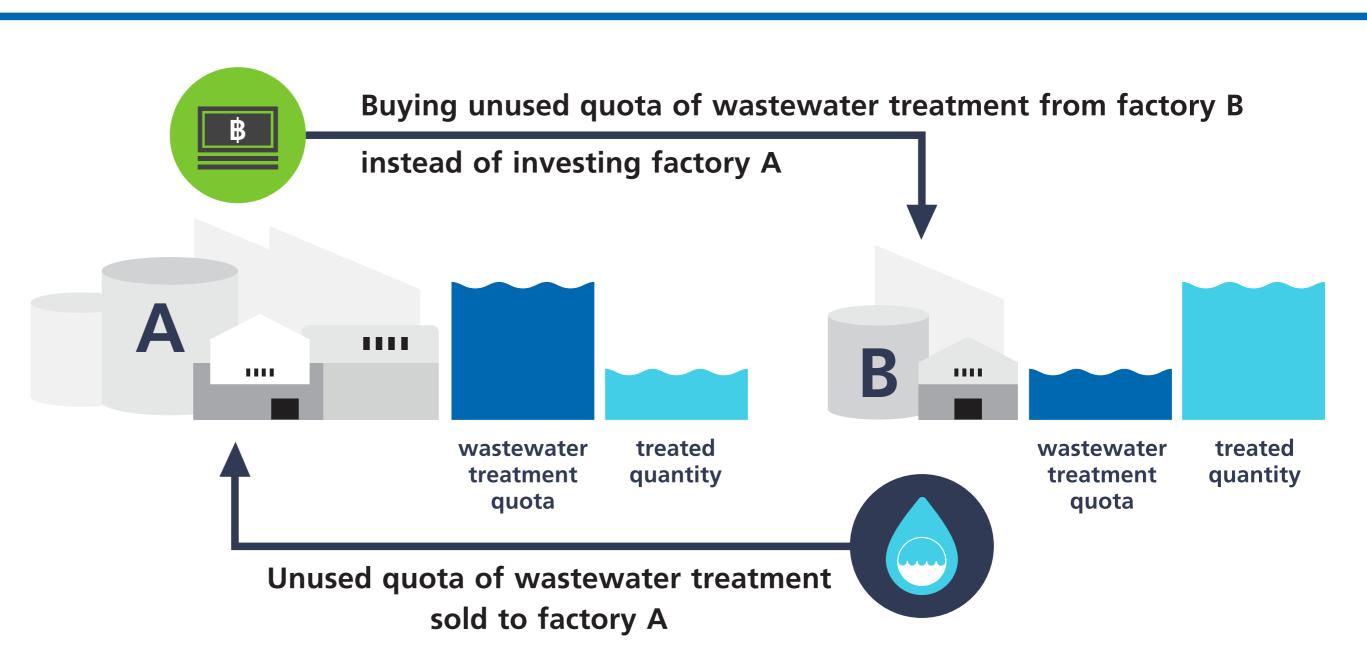
PES
(Payment for Ecosystem Services)

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



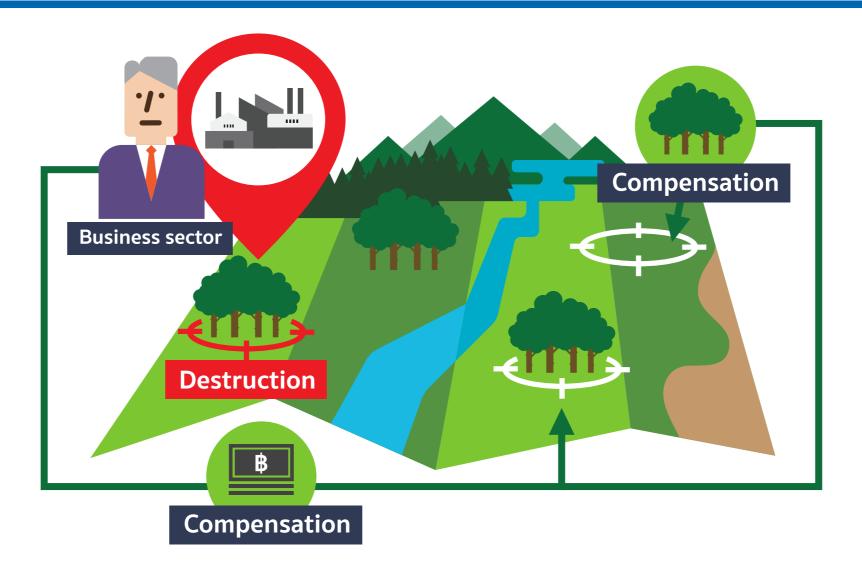
Nutrient Trading

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.

