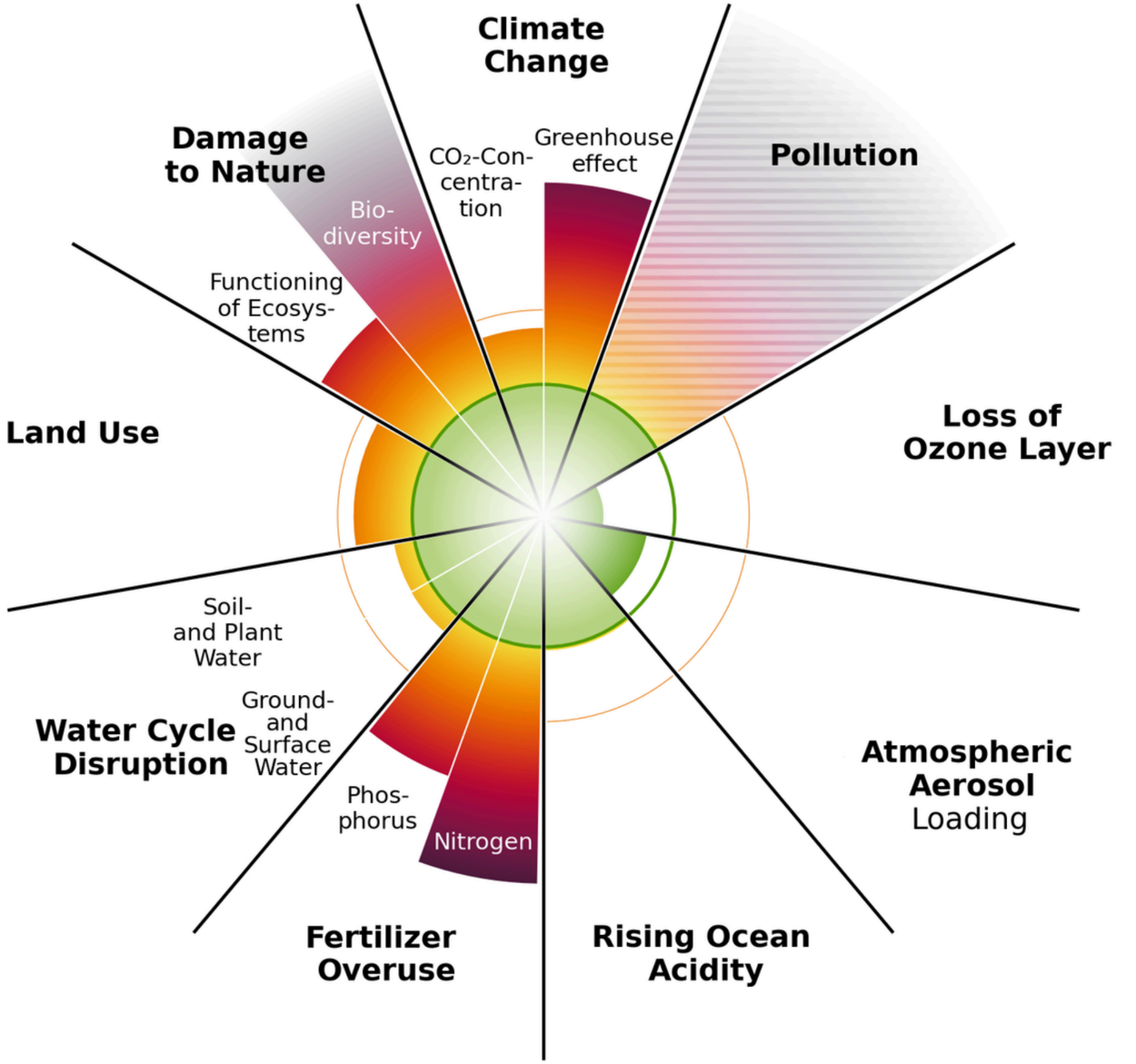
มูลนิธิแม่ฟ้าหลวง ในพระบรมราชูปถัมภ์
Mae Fah Luang Foundation under Royal Patronage

การอบรมเชิงปฏิบัติการ "เสริมสร้างความเข้าใจด้านความหลากหลายทางชีวภาพ และการประเมินการพึ่งพา ผลกระทบ ความเสี่ยง และโอกาสตามแนวทางสากล"

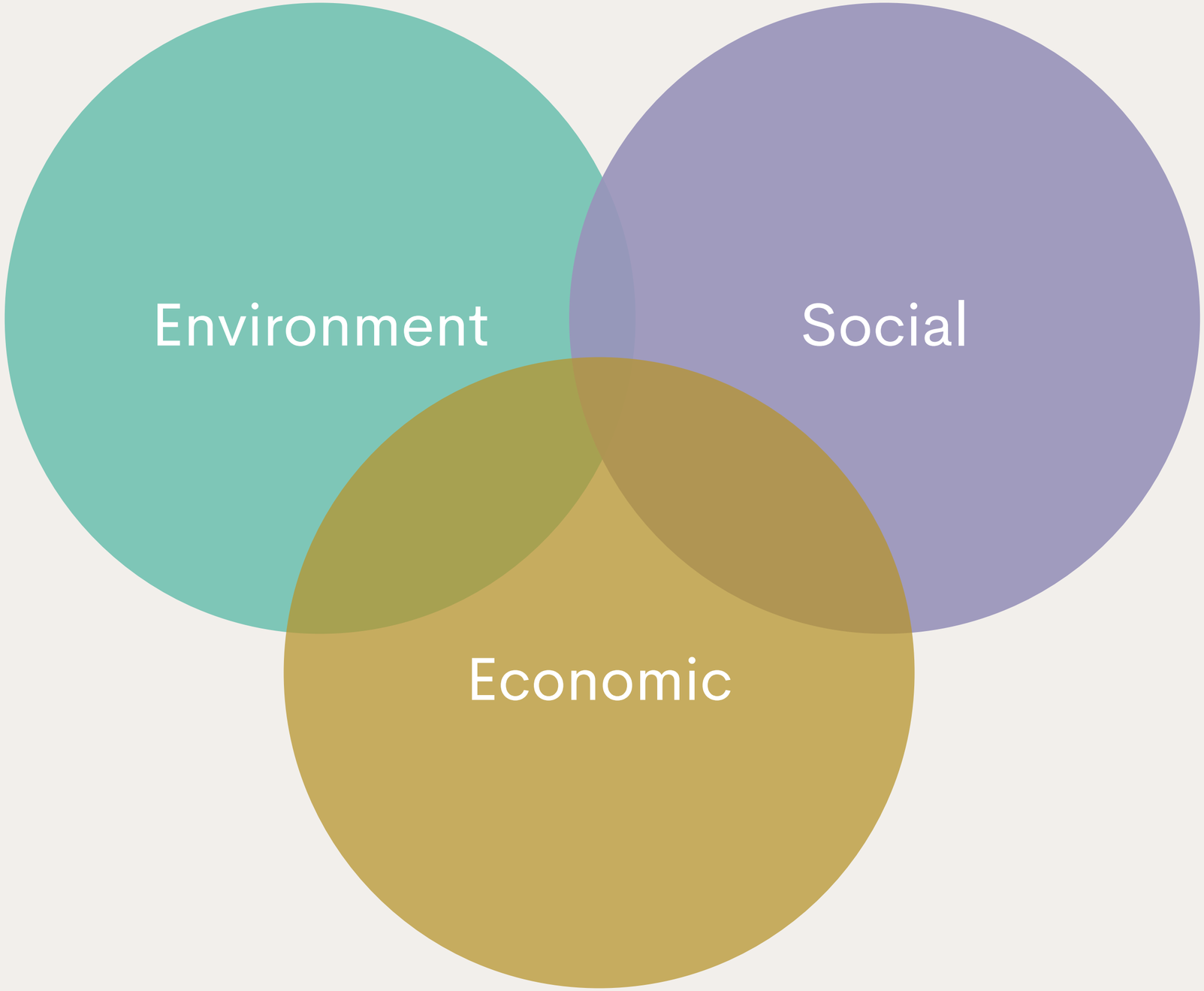
18, 20, 22 พฤษภาคม 2569
ห้องประชุม 1501 สำนักงาน ก.ล.ต.

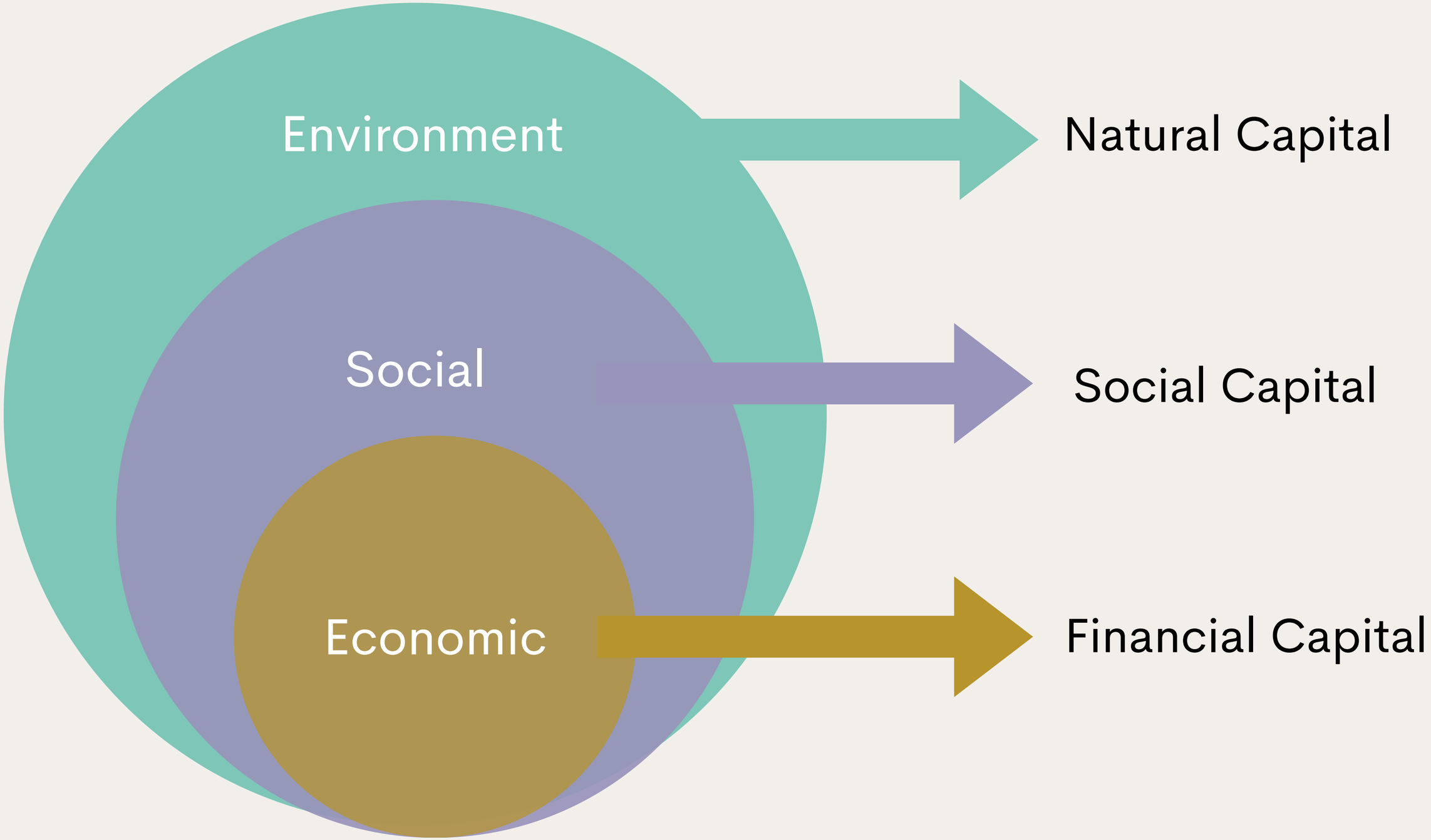


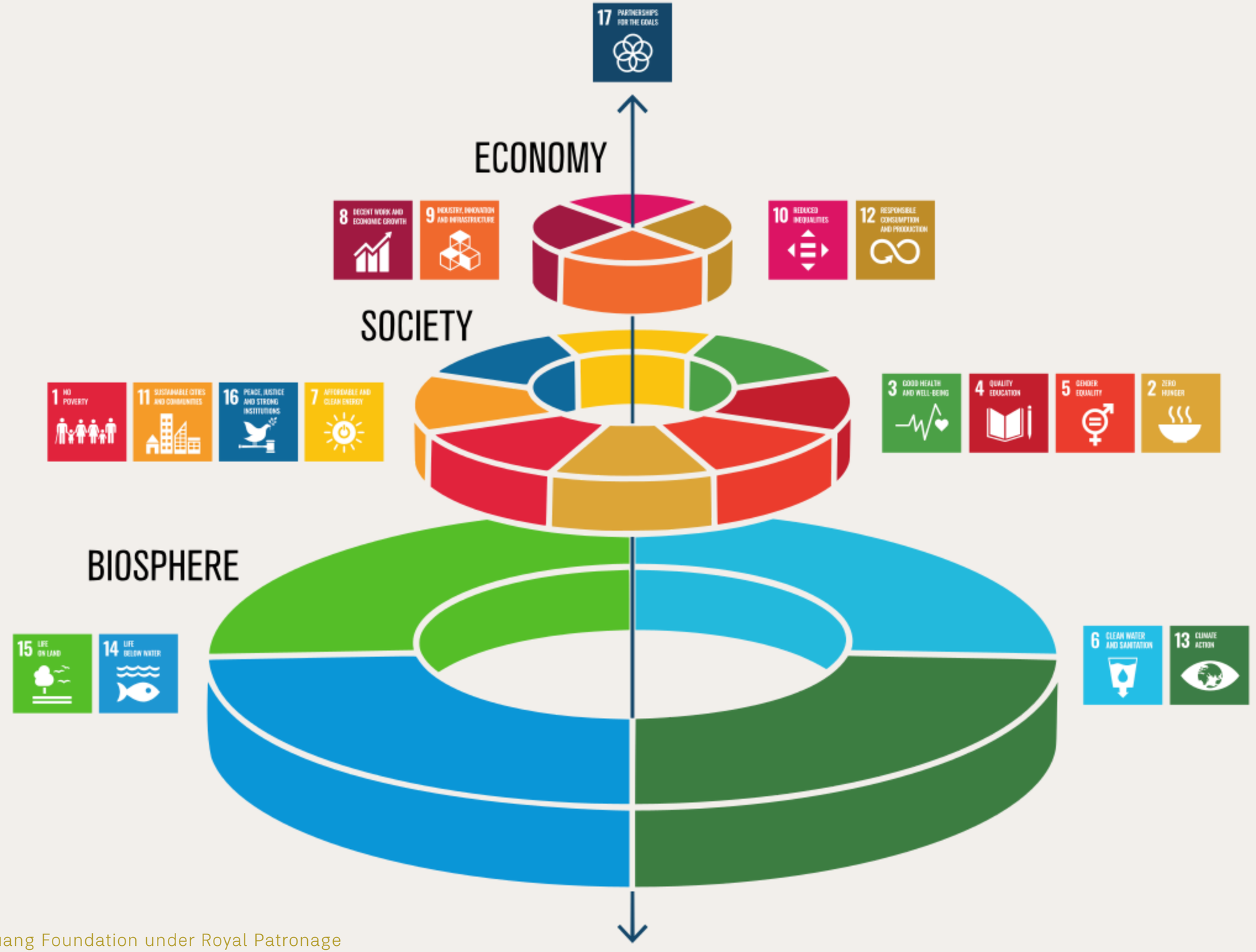
Planetary Boundary | Danger Line

Safe Zone | Risk Zone | Danger Zone | *Key Indicator*

The Biodiversity Collage



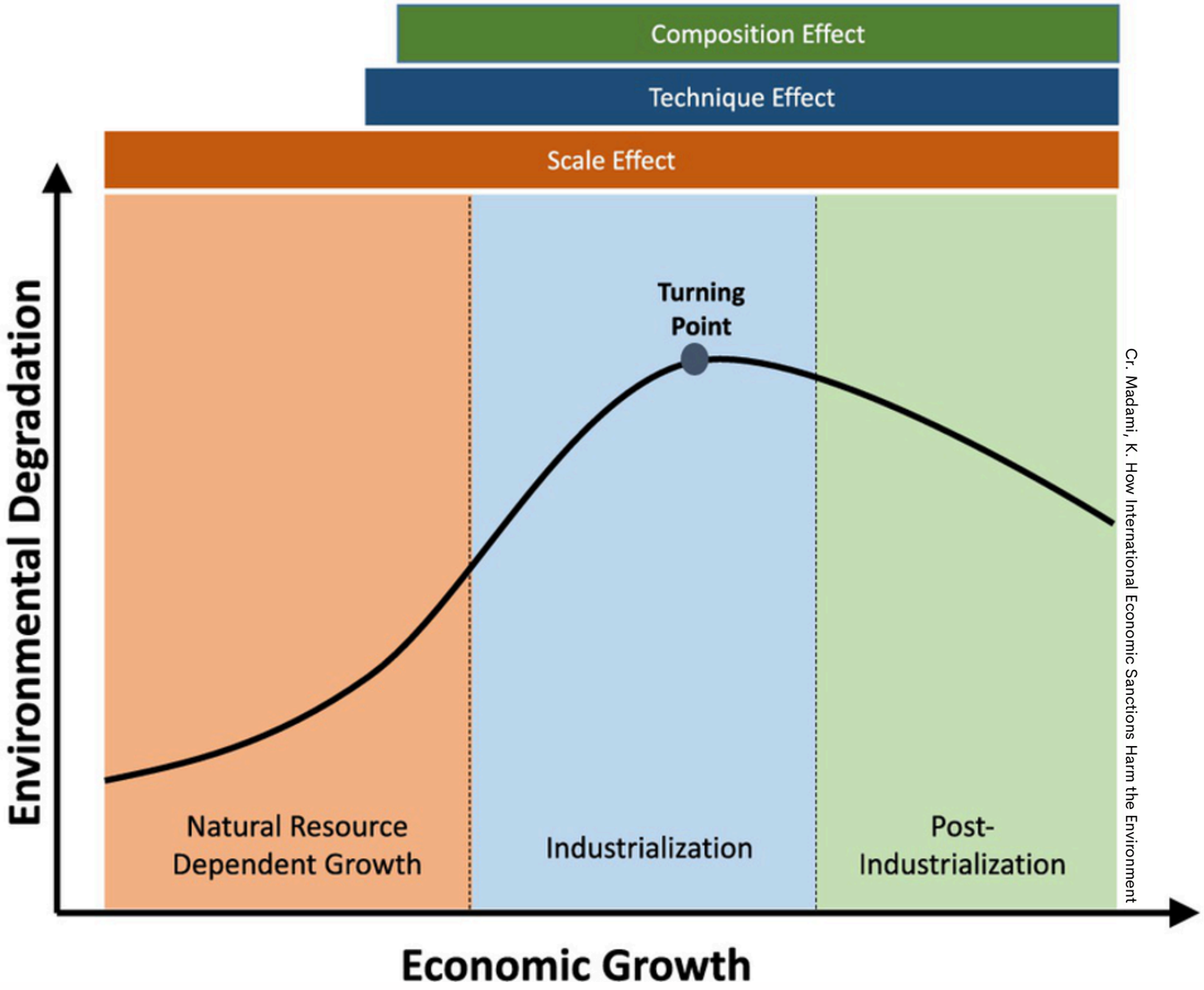




Biodiversity & Economic

Estimates show that between 1992 and 2014, produced capital per person doubled, and human capital per person increased by

13% globally; but the stock of natural capital per person declined by **40%**



Ref: Dasgupta, Economic of Biodiversity (2021)

Our World Dependent on Nature

$125T
Value of global ecological services

55%
of Global GDP rely on nature

220K
Million Baht/year for harmful subsidies

20K
Million Baht/year for conservation

Ecological Services

- Construction, agriculture, and food & beverages are the three largest industries that depend most on nature.
- 3/4 of food crops depend on pollination.

Risk of Biodiversity Loss

- Biodiversity loss ranks among the top two global risks.
- Emerging risk: health, gender equality, peace
- Damage to nature from economic activity can no longer be considered an 'externality'.

Ref: WEF, Nature Risk Rising (2020)

Cr: www.flickr.com/photos/sharman/4570412801

Level of Biodiversity

Ecosystem

Species

Genetic

5 Drivers of Biodiversity Loss

Land/ Ocean/ Freshwater use Change

Over Exploitation

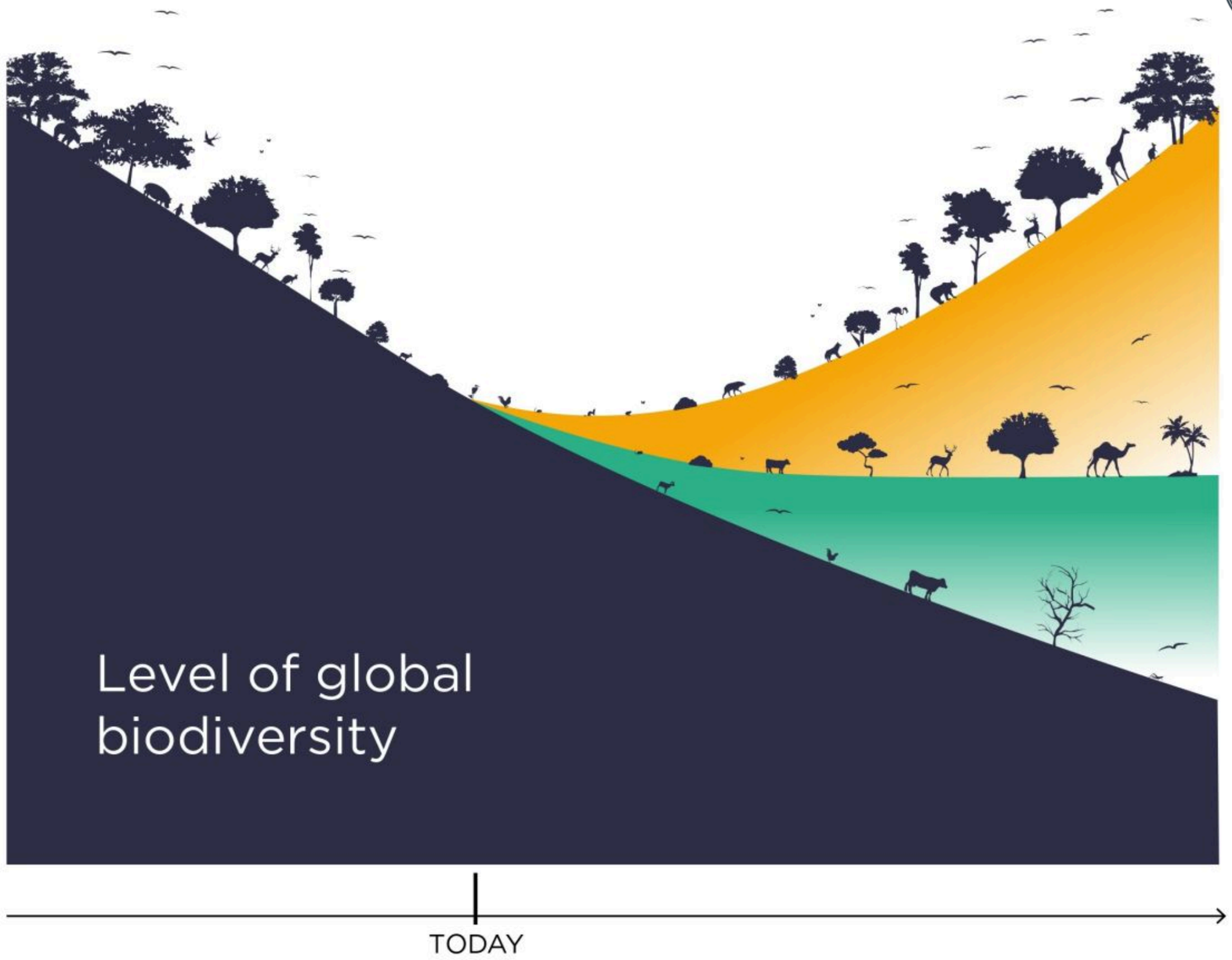
Climate Change

Pollutions

Invasive Alien Species

Ref: IPBES, Global Assessment Report (2019)

SCIENCE BASED TARGETS NETWORK
GLOBAL COMMONS ALLIANCE



Transforming production and consumption systems

Nature Positve by 2030

Increased conservation and restoration efforts

Business as usual

Get Ready for Afternoon

ENCORE

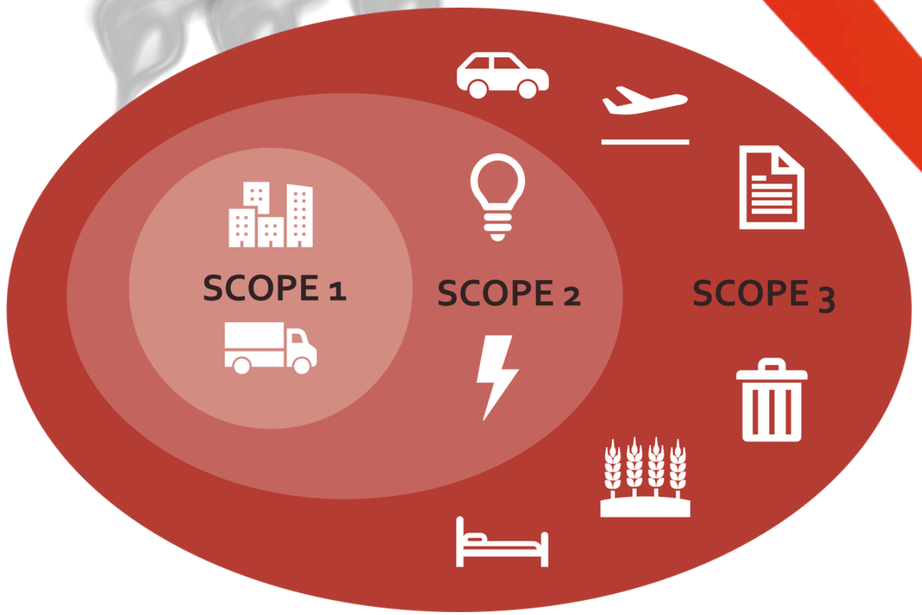
www.encorenature.org
Create and Verify User

Biodiversity Risk Filter

https://riskfilter.org
Create and Verify User

Business and Carbon Emission

Carbon Footprint
(tCO_2e)



GHG Emission
from Businesses

ปล่อยก๊าซเรือนกระจกสุทธิเป็นศูนย์

Offset with
Carbon Credit

10%

Emission Reduction
- Reduce
- Technology
- Transformation

90%

NET 0%

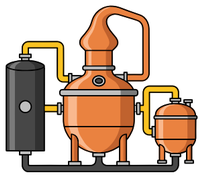
Business and Biodiversity

Dependencies

Pressure

Longan Orchard

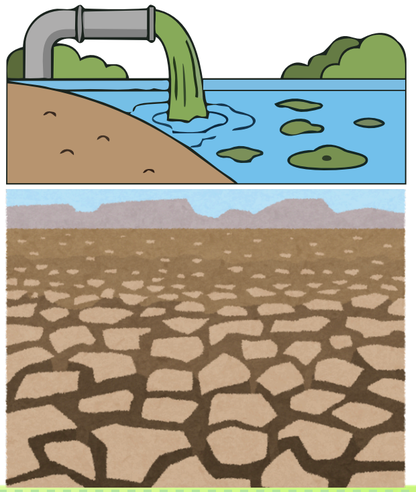
Pressure



Pressure

Beverage Business

Impacts

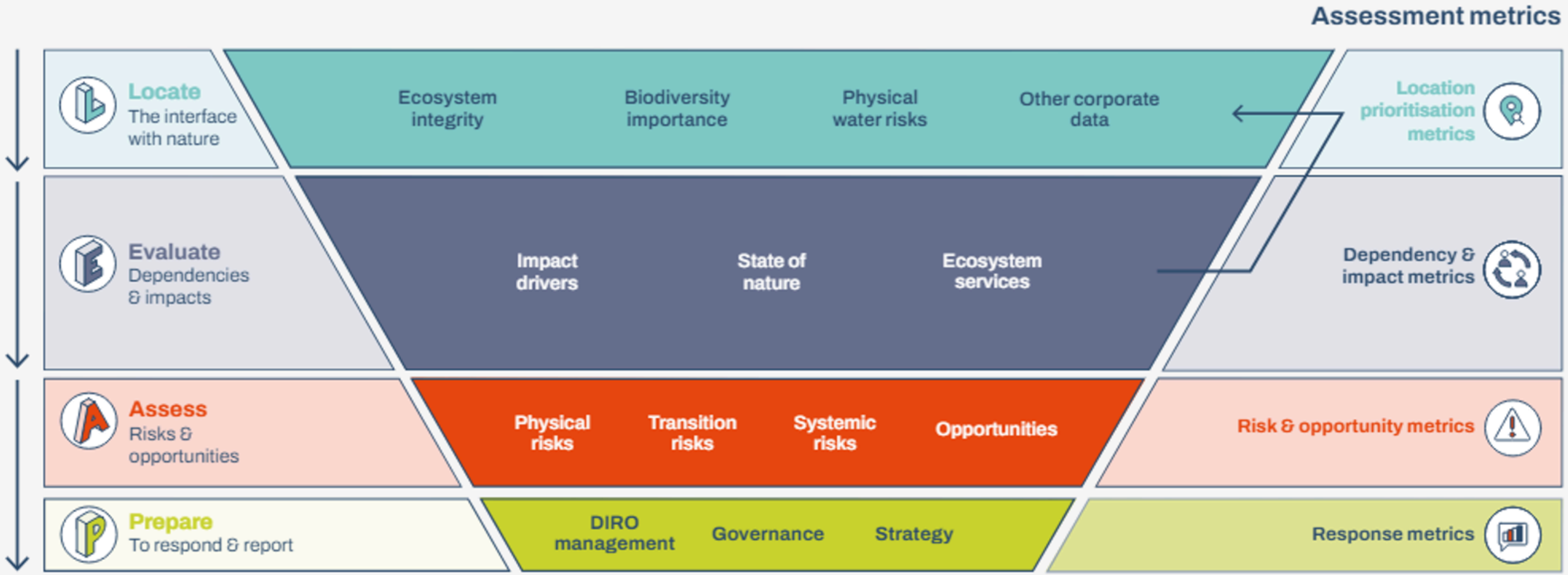


Locate
The interface with nature

Evaluate
Dependencies & impacts

Assess
Risks & opportunities

Prepare
To respond & report



Business and Biodiversity

Locate

Business Activities

Evaluation

Dependencies Impacts

Assessment

Risks Opportunities

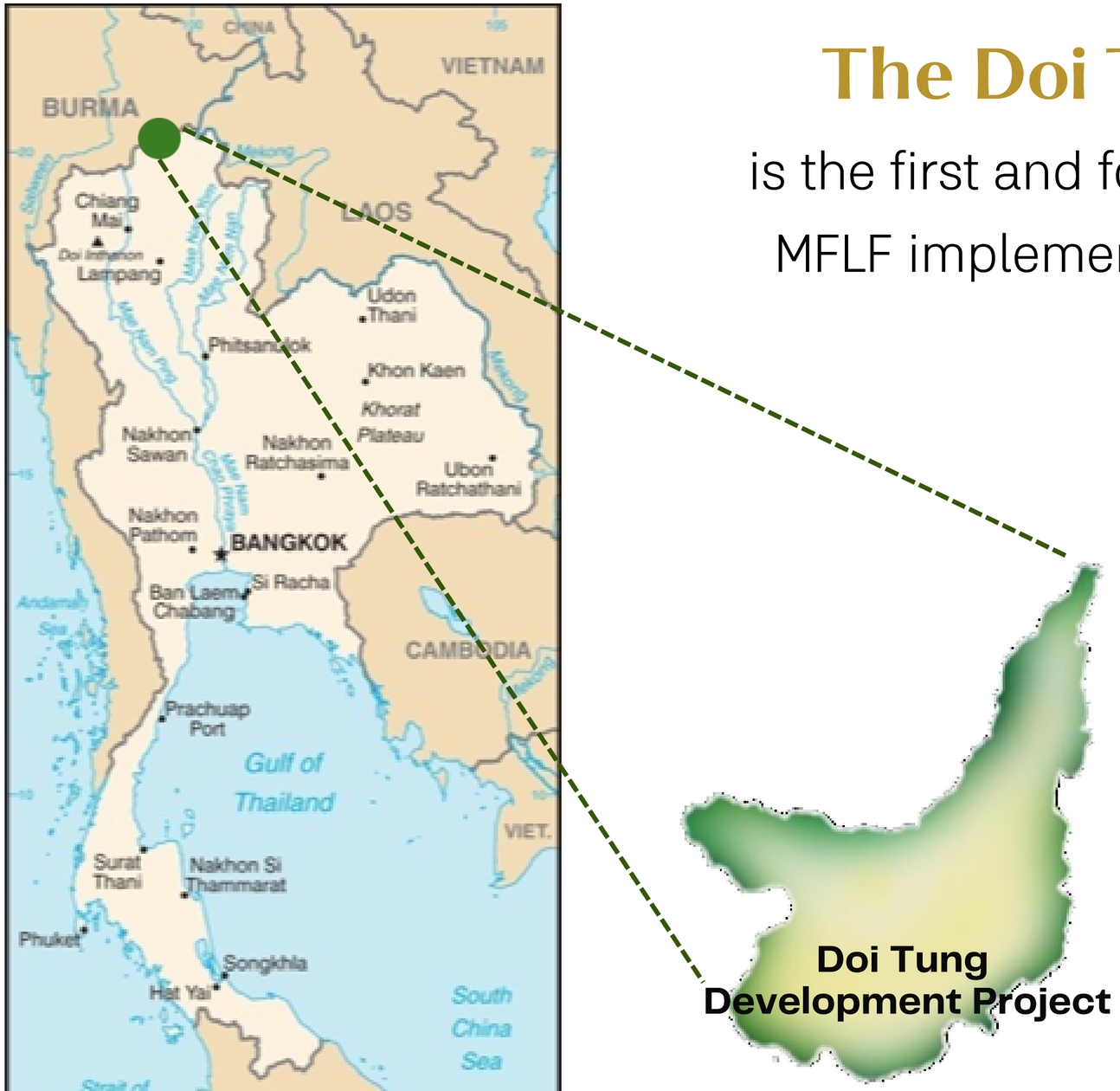
DIRO Framework | Nature-related Issues

Prepare

Mitigation Hierarchy

Managing Nature-related Issues using Mitigation Hierachy Framework

Business is contributing to Nature Positive Goal



The Doi Tung Development Project

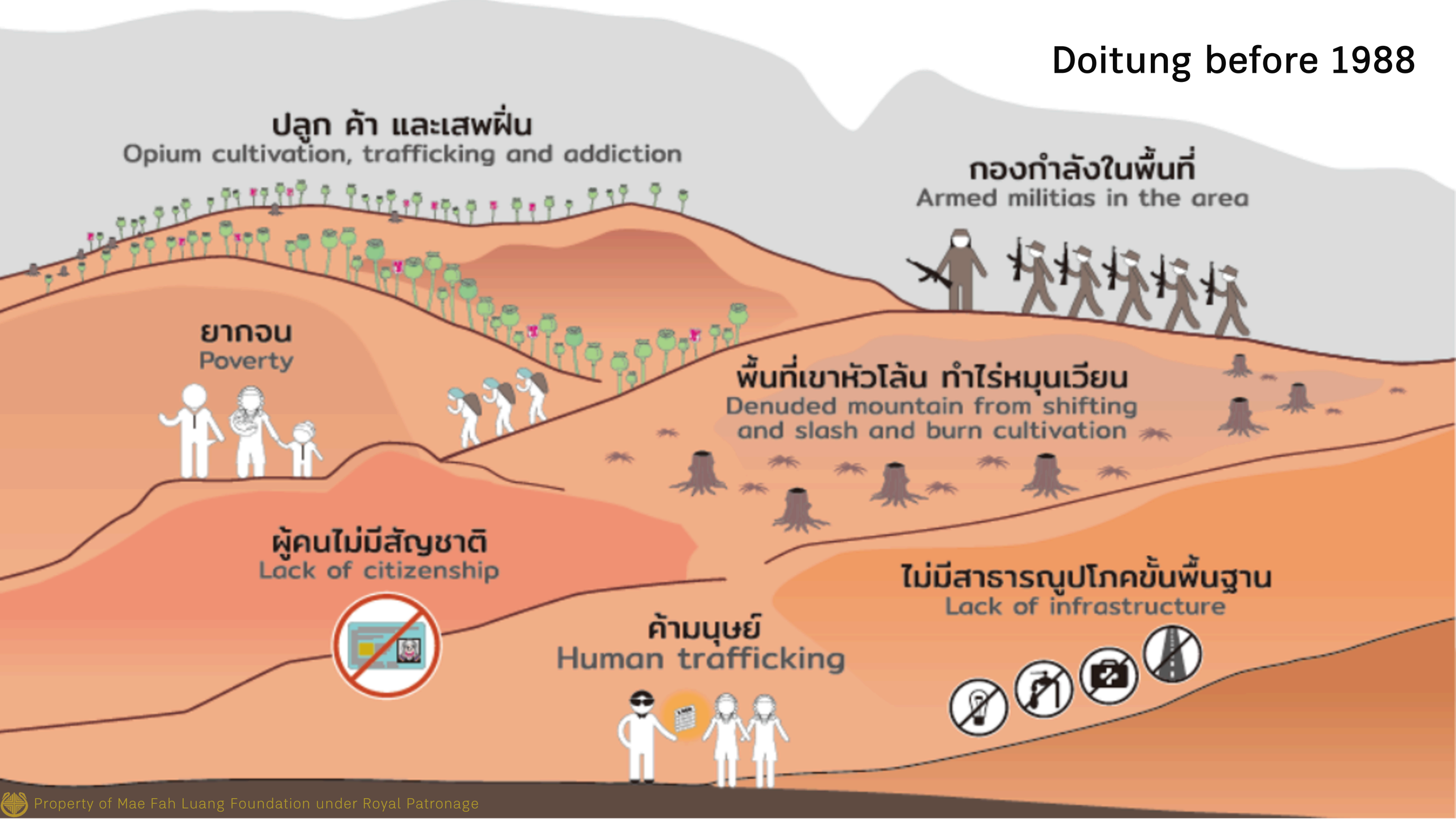
is the first and foremost holistic development project of the MFLF implementing **Sustainable Alternative Livelihood Development (SALD)**

Doi Tung Development Project

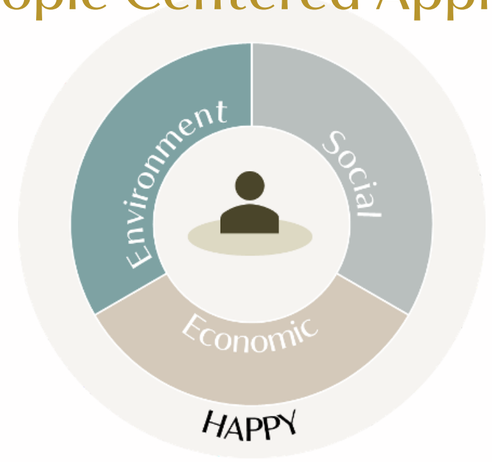
Mae Fah Luang District,
Chiang Rai province, Thailand

Area: 14,684.64 hectares (91,779 Rai)
Population: 29 villagers, ≥11,000 ppl,
6 ethnic groups

Doitung before 1988



People Centered Approach



DOITUNG

An Enterprise for a Better World

Food | Cafe | Handicraft | Horticulture | Tourism

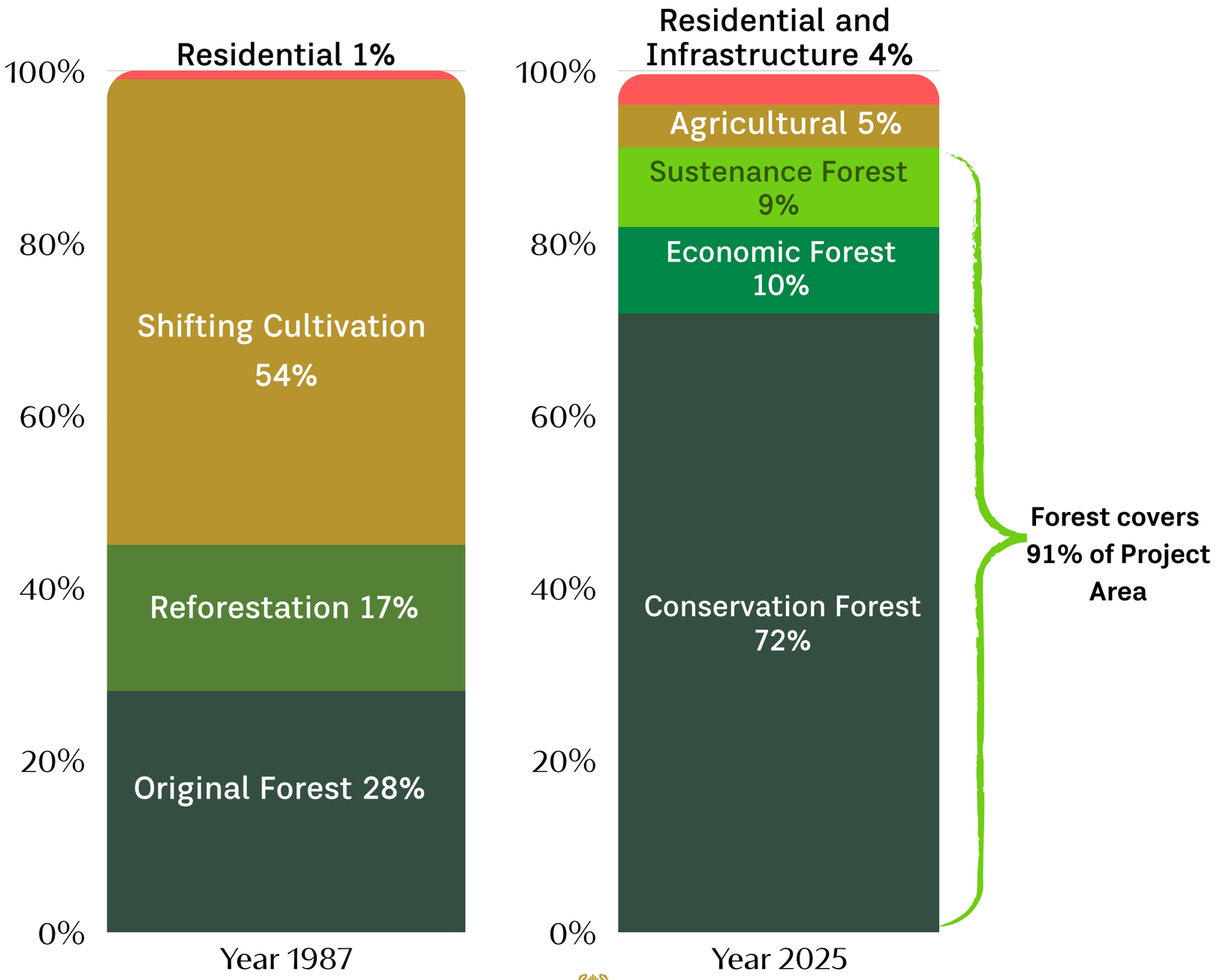
Agricultural area

Economic Forest

Sustenance forest

Conservation Forest

Landuse of Doi Tung Development Project

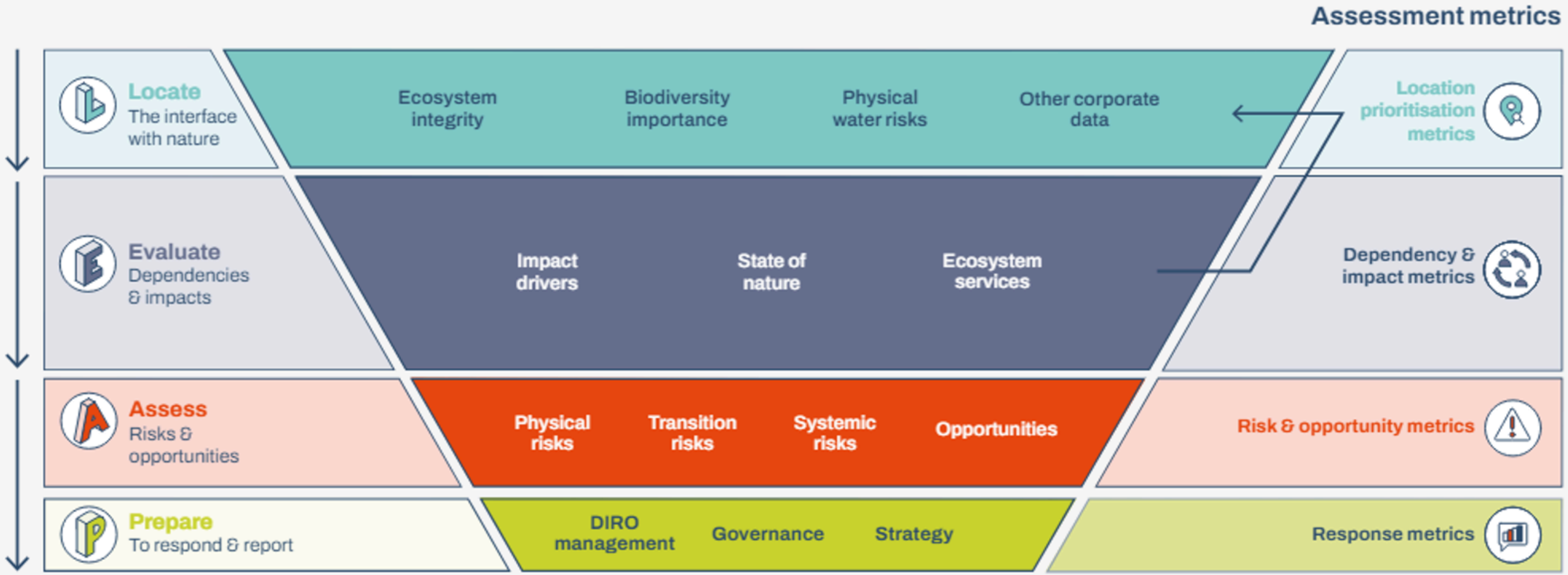


Locate
The interface with nature

Evaluate
Dependencies & impacts

Assess
Risks & opportunities

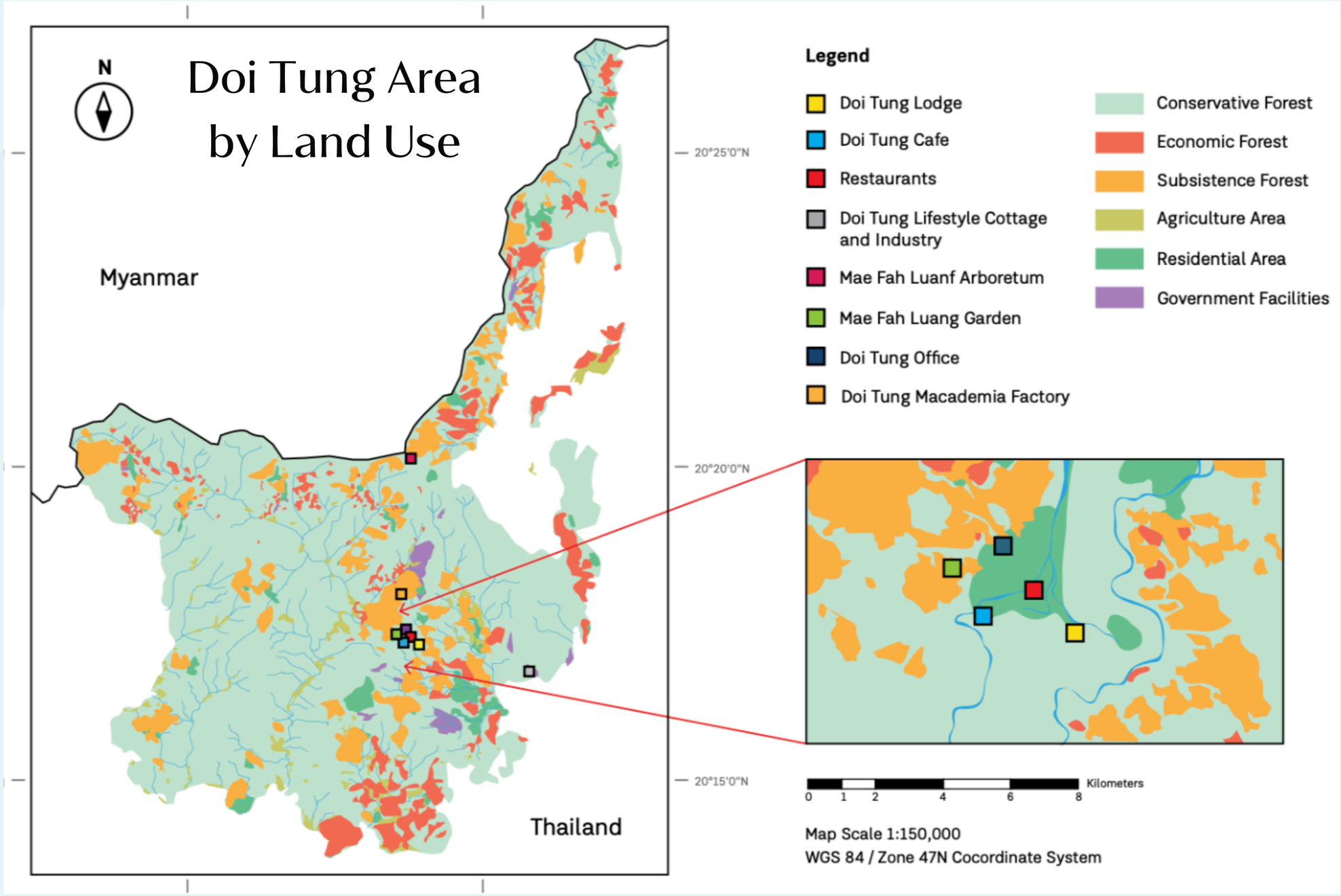
Prepare
To respond & report



Locate

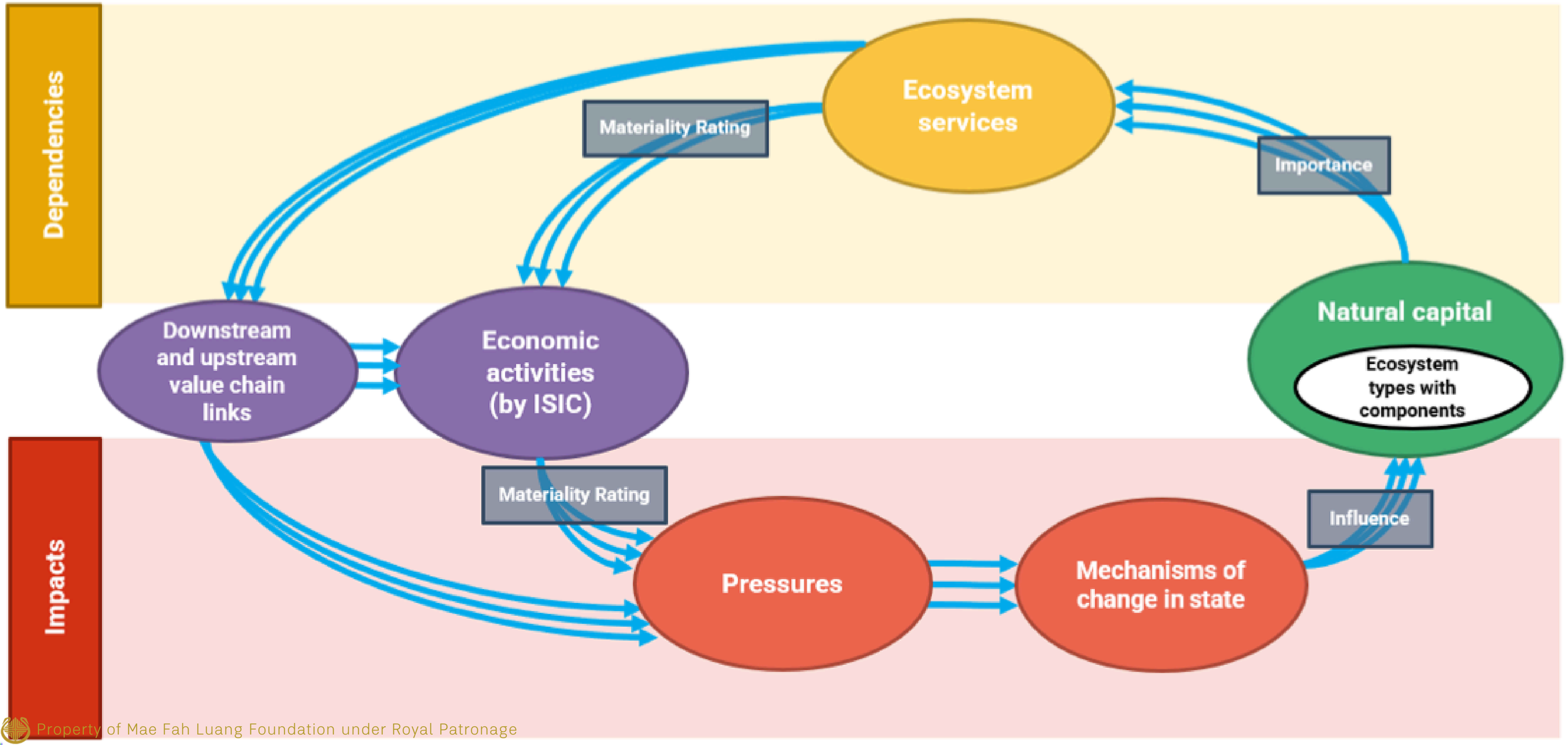
The interface with nature

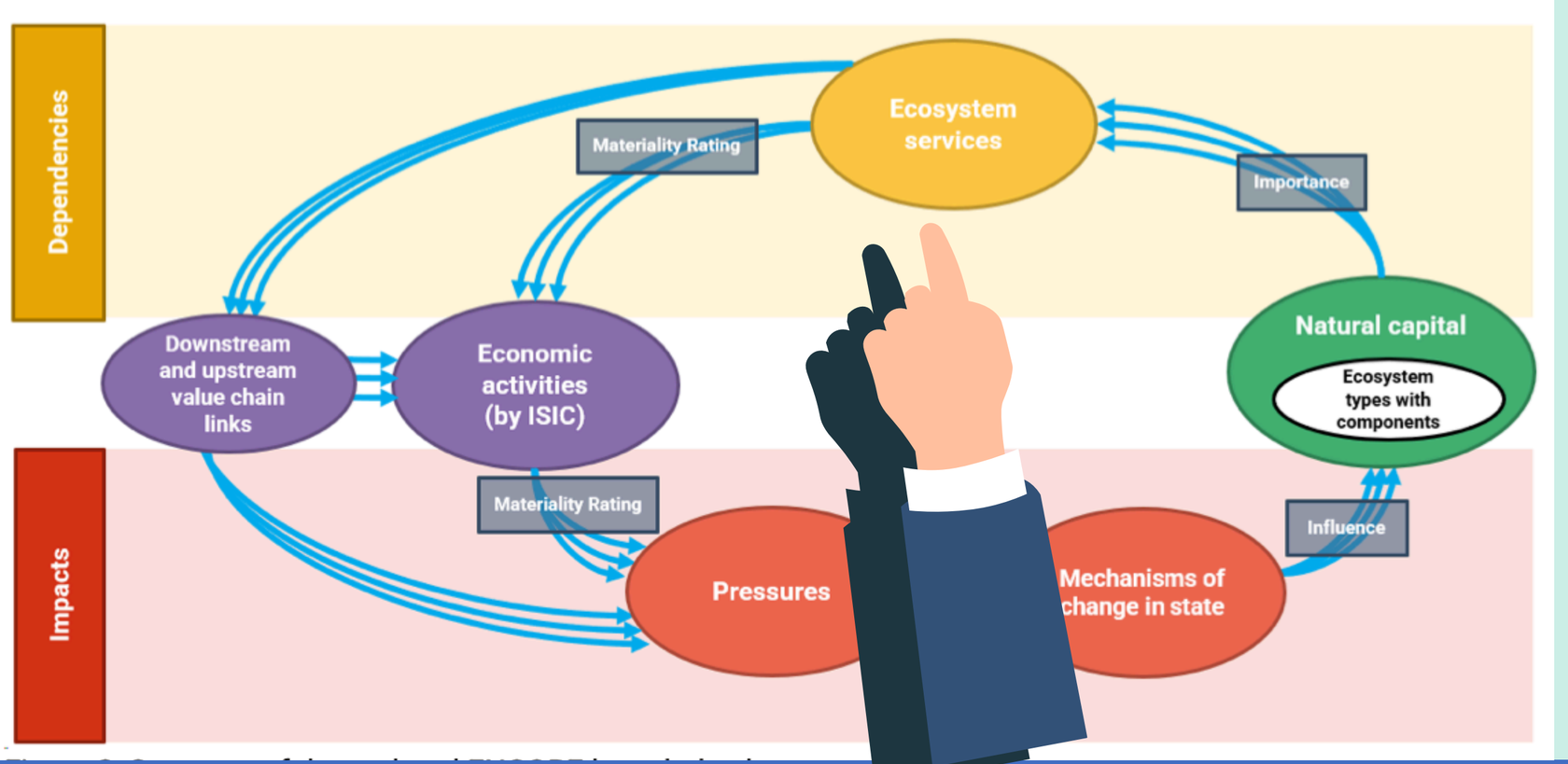
Doi Tung Area by Land Use



Evaluate
Dependencies
& impacts

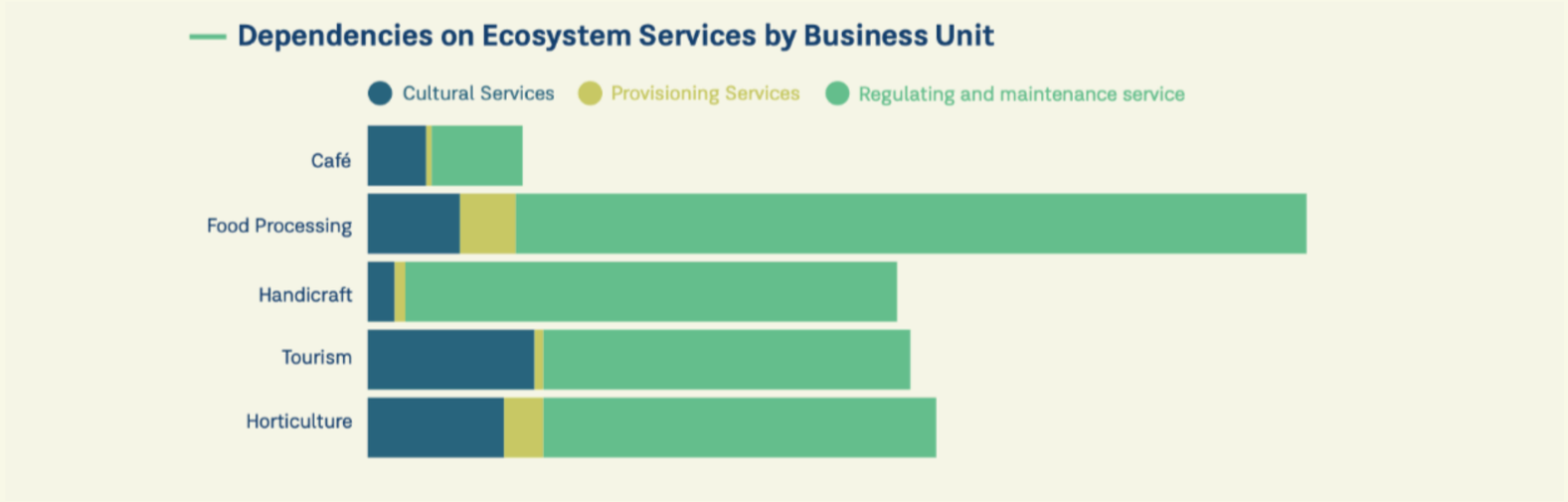
Dependencies & Impacts Framework





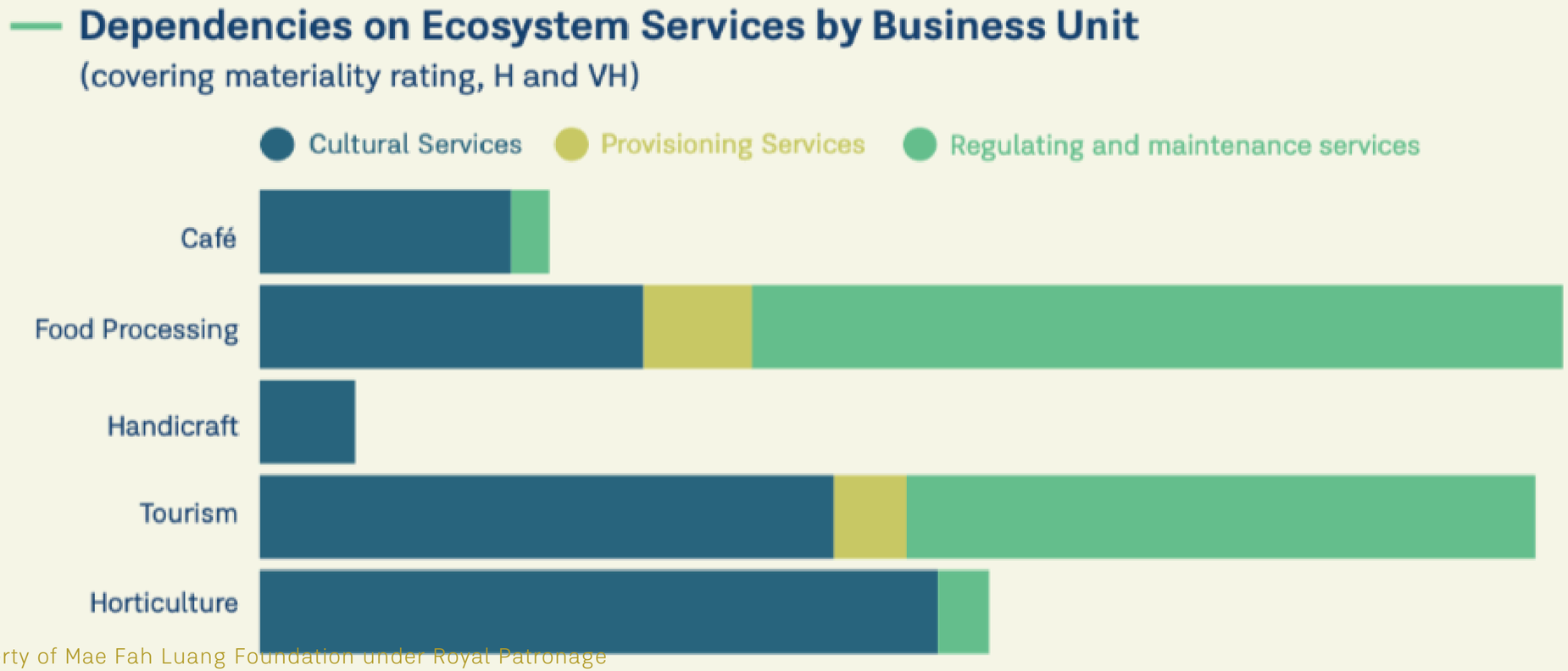
Ecosystem Service	
Provisioning Service	1.Biomass Provisioning Services
	2. Genetic materials Services
	3. Water Supply
	4. Other provisioning services - Animal-based energy
Cultural Services	1. Recreational-related services
	2. Visual amenity services
	3. Education, scientific and research services
	4. Spiritual, artistic and symbolic services

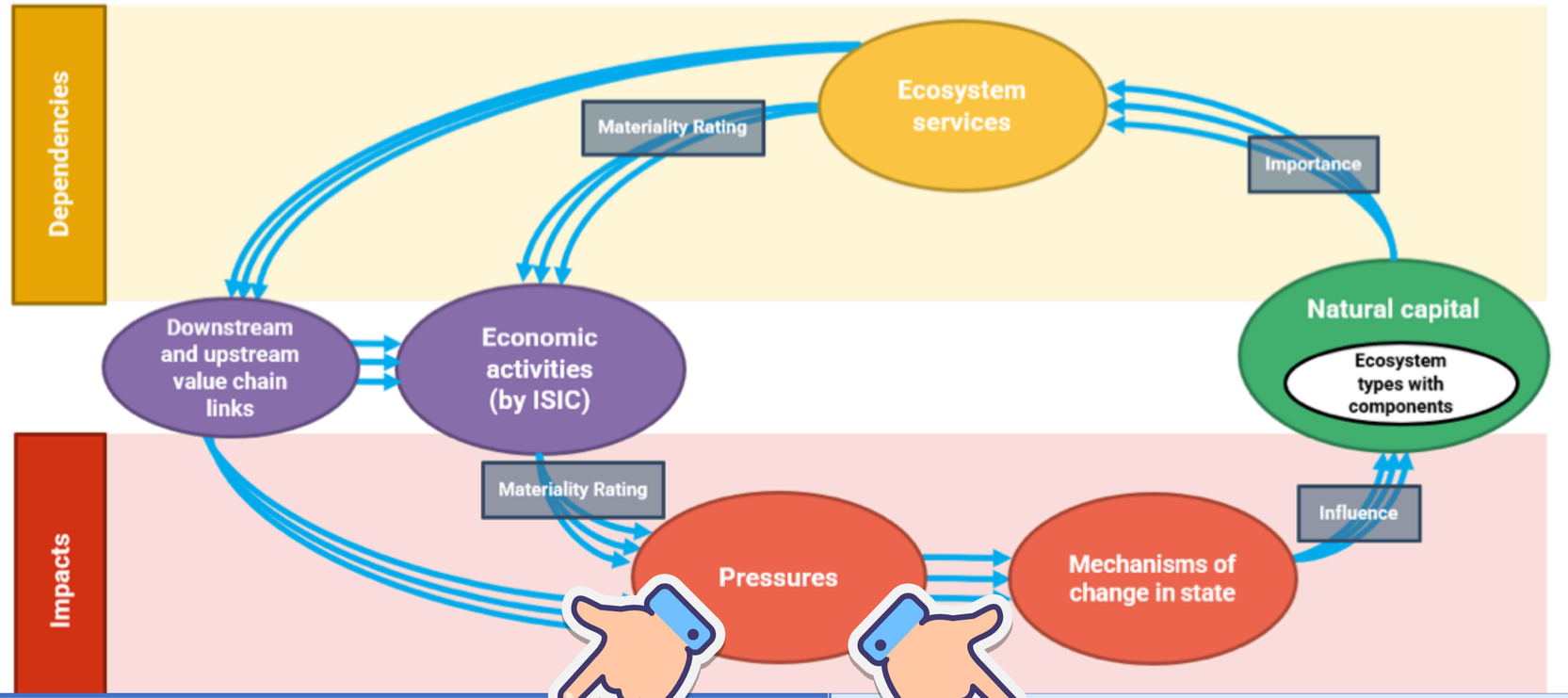
Ecosystem Service	
Regulating and Maintenance services	1. Global climate regulation service
	2. Rainfall pattern regulation services (Sub-continental scale)
	3. Local (Micro & Meso) climate regulation services
	4. Air filtration services
	5. Soil quality regulation services
	6. Soil & sediment retention services
	7. Solid waste remediation
	8. Water purification services
	9. Water flow regulation services
	10. Flood mitigation service
	11. Storm mitigation services
	12. Noise attenuation services
	13. Pollination services
	14. Biological control services
	15. Maintain nursery population and habitat maintenance services
	16. Other regulating and maintenance services - Dilution by atmosphere and ecosystem
	17. Other regulating and maintenance services - Mediation of sensory impacts (other than noise)



Evaluate
Dependencies
& impacts

Dependencies

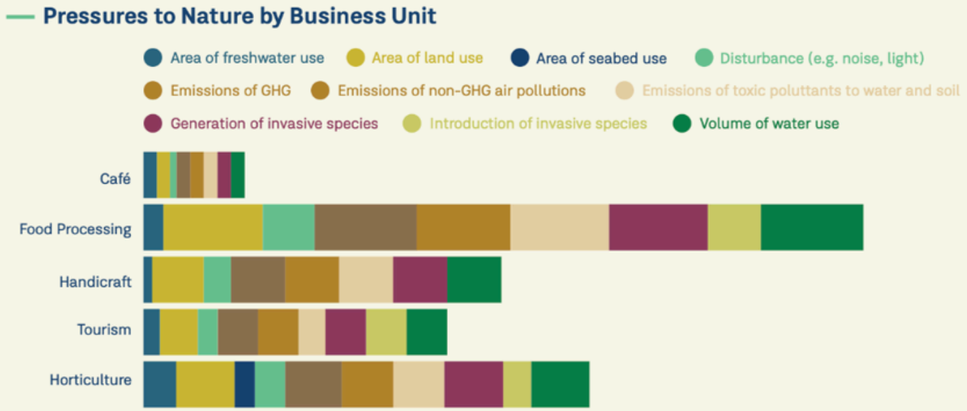




Pressures from Emission
Emissions of GHG
Emissions of Non-GHG air pollutants
Emissions of toxic pollutants to water and soil
Emission of nutrient pollutions to water and soil
Disturbances (e.g noise, light)
Generation and release of solid waste
Pressures from Extraction
Other biotic resource extraction (e.g. fish. timber)
Other abiotic resource extraction

Pressures from Utilization
Area of land use
Area of freshwater use
Area of seabed use
Volume of water use
Pressures from Introduction
Introduction of Invasive species

Pressures

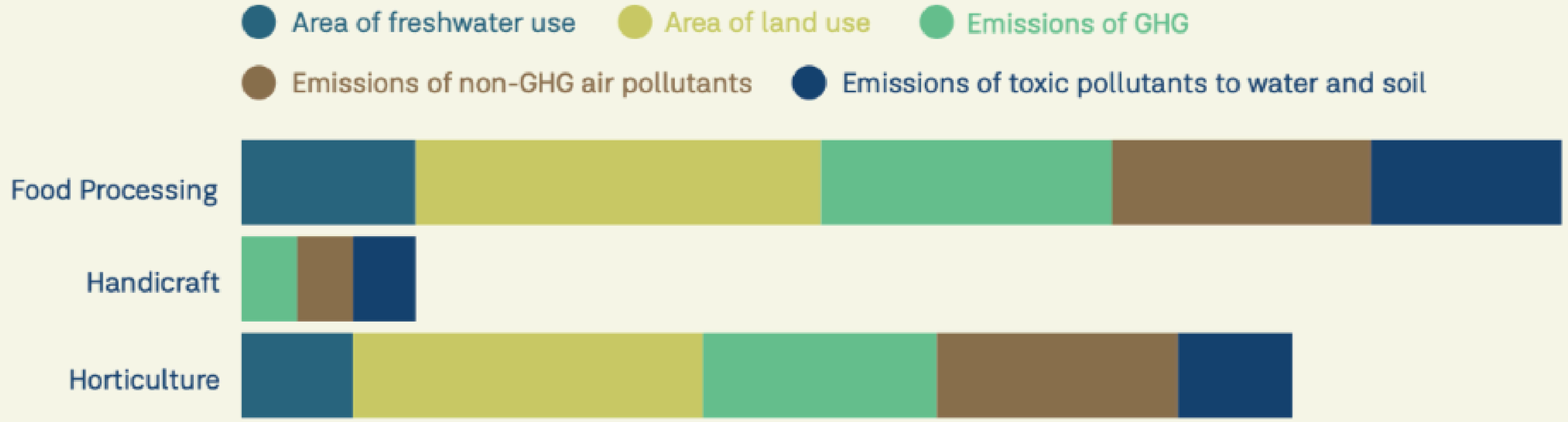


Evaluate
Dependencies
& impacts

Impacts

Pressures to Nature by Business Unit

(covering materiality rating, H and VH)



Heatmap: Qualitative Ratings for Dependencies and Impacts

Impact \ Probability	Rare	Unlikely	Possible	Likely	Highly Likely
Critical		• Ecosystem condition • Water availability • Reputational risk	• Soil condition • Ecosystem stability • Policy & regulatory change	• Tropical cyclone	• Wildfire • Technology •
Severe		• Water purification		• Pests & diseases • GHG emission	• Air condition • Landslides • Range rarity
Moderate		• Extreme heat • Pollution emission • Land use			
Minor		• Pollination • Herbicide Resistance • Volume of water use • Invasive species • Solid waste • Forest canopy loss • Market risk		• Water flow condition • Area of freshwater use	
Negligible			• Non-GHG emission		

Assess
Risks & opportunities

DTDP FOCUS Area

- **Wildfire**
- **Water and water-related issues**
- **Soil & Regenerative Agriculture practice**
- **GHG emission**

Prepare
To respond & report

Water & Water-related issues

How much do we use 1.

- Watershed and catchment area
- Water Using Activities
- Amount of water use

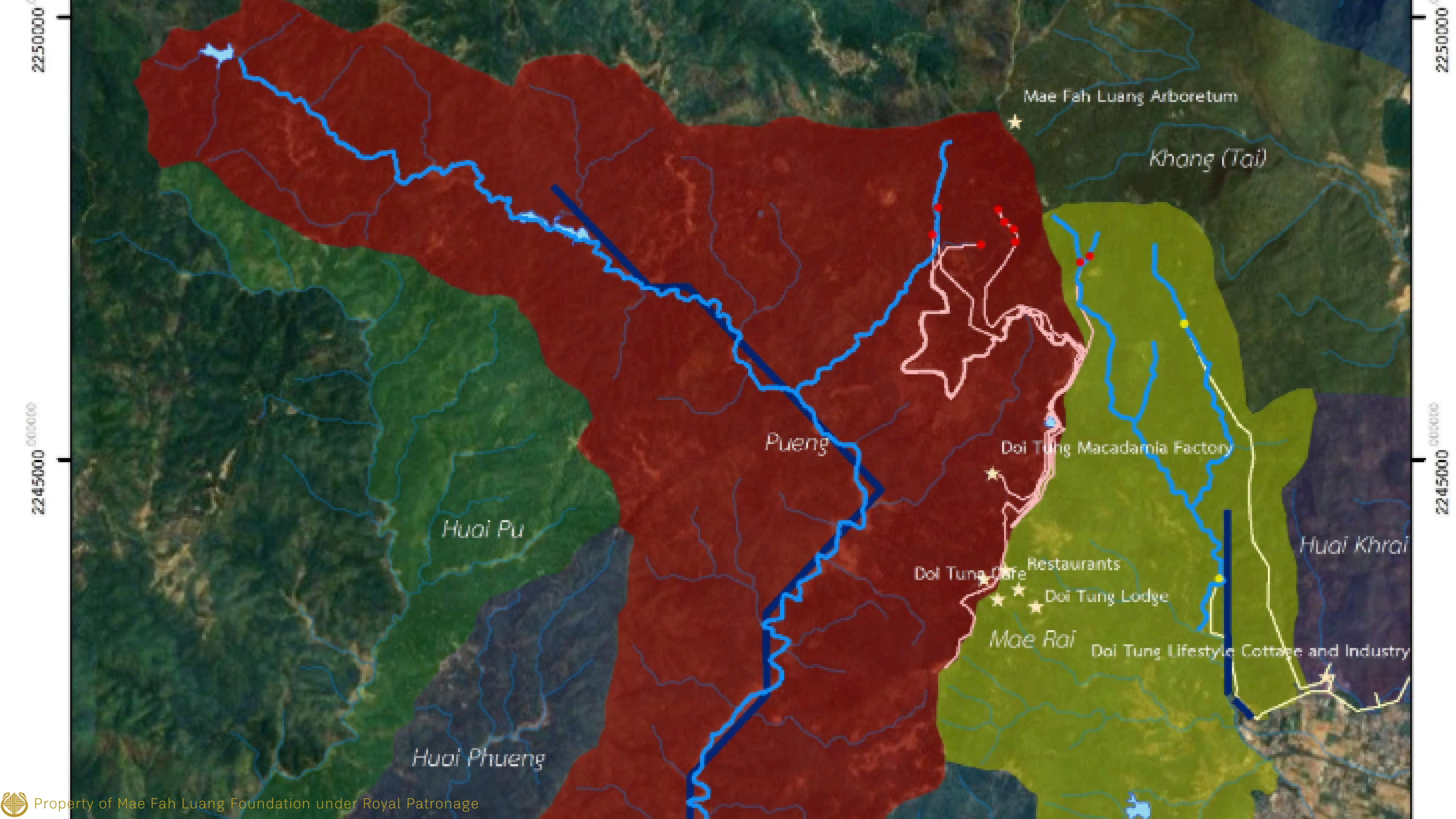
Goal Setting 2.

- SBTN for water – Corporate water consumption (blue water footprint) does not exceed sustainable Blue Water Availability.

Intervention activities 3.

- Identify and priortize potential activities
- Stakeholder engagements

$$Blue\ Water\ Availability\ (BWA) = Blue\ Water\ Runoff\ (BWR) - Environmental\ Flow\ Requirement\ (EFR)$$



Prepare
To respond & report

Soil and Regenerative Agri

Regenerative Agriculture 1.

- **Soil Health & Carbon**
- Climate & Emissions
- Biodiversity
- Water Quality
- Socio-Economic

Soil Health & Carbon 2.

- **Soil Organic Matter (SOM) / Soil Organic Carbon (SOC)**: Measures annual carbon gains in the soil.
- **Water Infiltration & Retention:** Ability of the soil to absorb and hold moisture.
- **Soil Fertility**: Monitoring levels of key nutrients and microbial activity.

Intervention activities 3.

- Working with geologist and biologist to identify potential activities

SCIENCE BASED TARGETS NETWORK

1 Assess

2 Interpret & Prioritize

3 Measure, Set & Disclose

4 Act

5 Track

ENCORE

Dependencies

Impacts

WWF

Biodiversity Risk Filter

Water Risk Filter

Biodiversity Risks

Water Risks

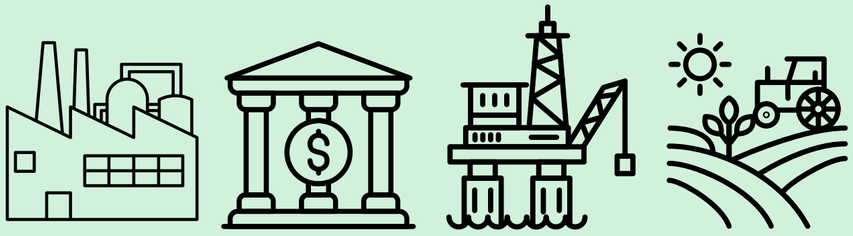
ENCORE

www.encorenature.org

INPUT

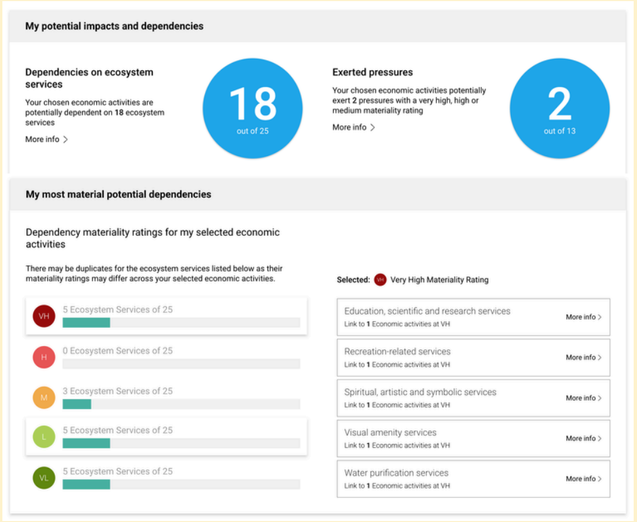
- ISIC Division
- ISIC Group/Class

ISIC: International Standard Industrial Classification of All Economic Activities



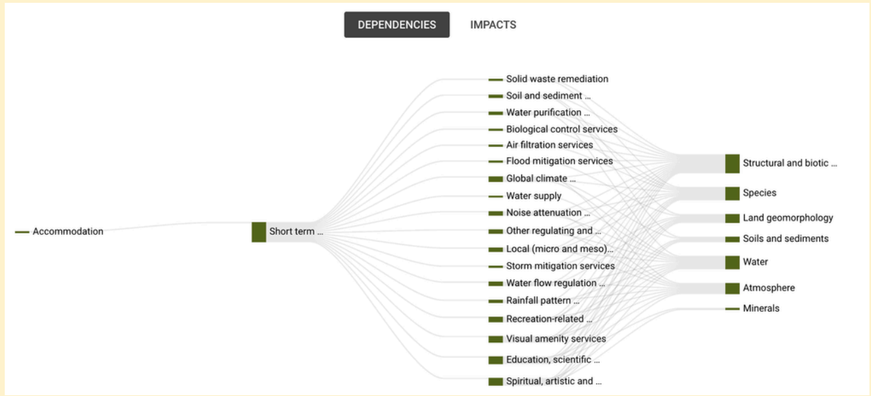
Output : Dependencies & Impacts

Data

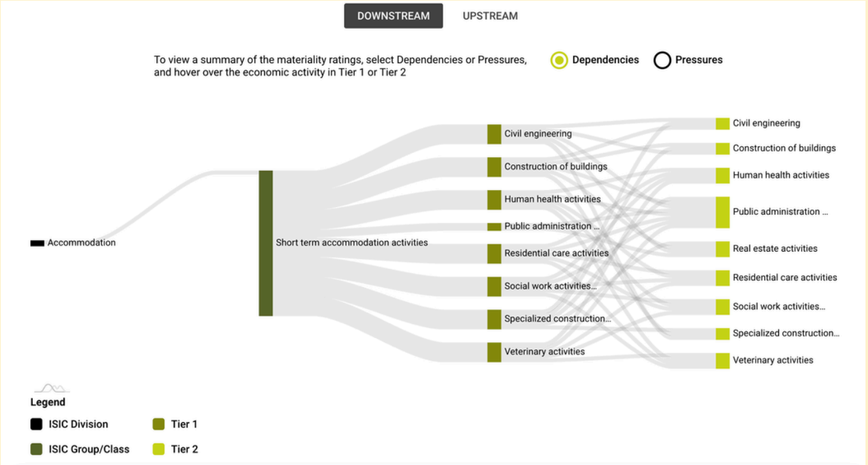


- My potential impacts and dependencies
- My most material potential dependencies
- My most material potential pressures
- My potential dependencies and pressures on ecosystem components

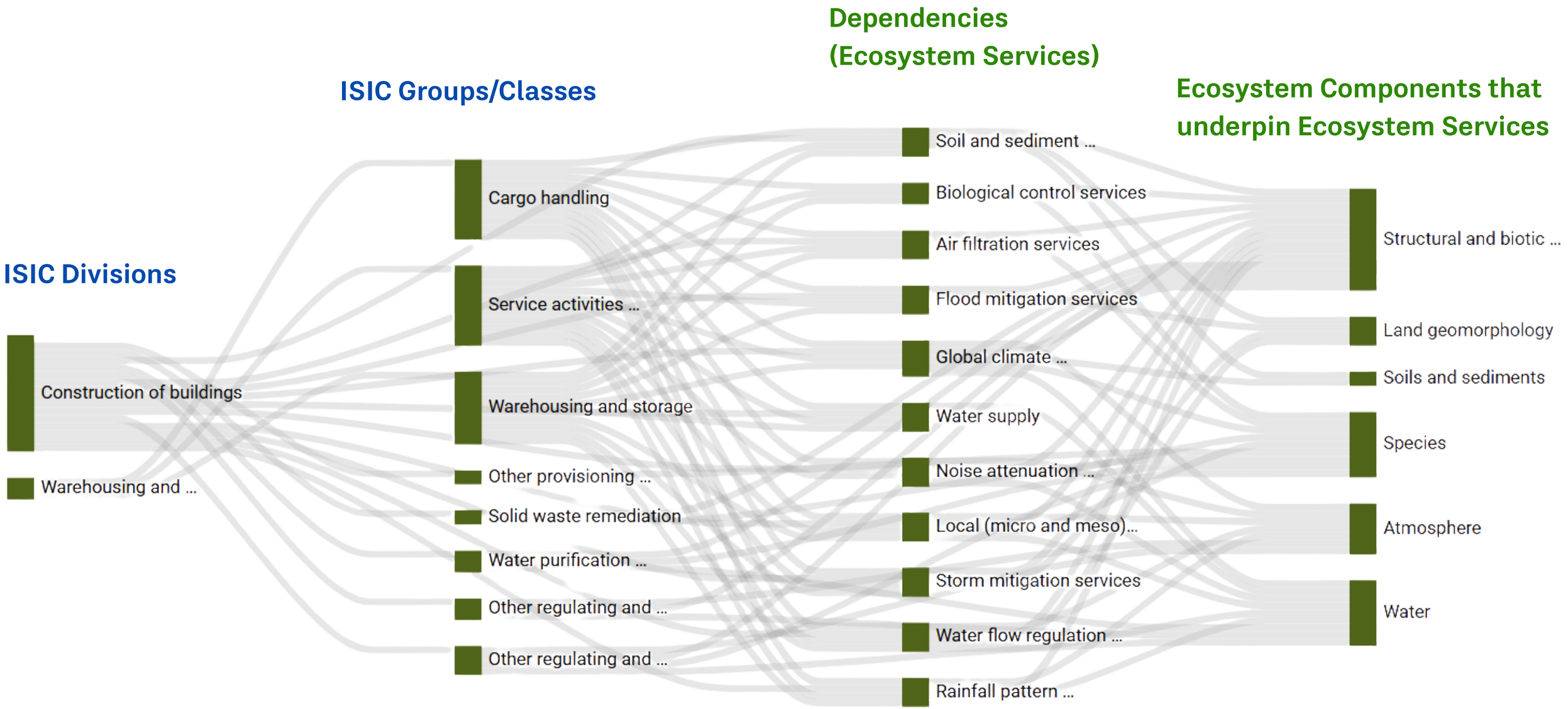
Flow



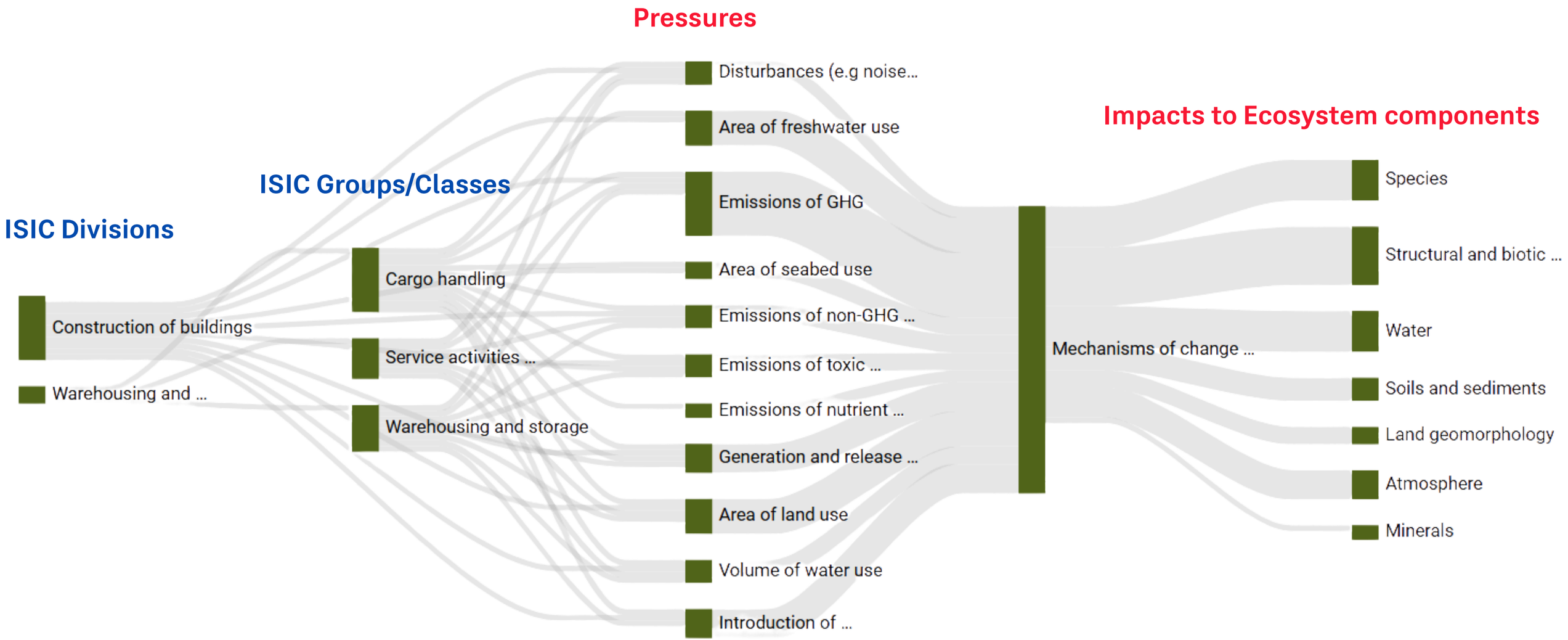
Value chain



DEPENDENCIES IMPACTS



DEPENDENCIES **IMPACTS**



WWF Risk Filter Suite

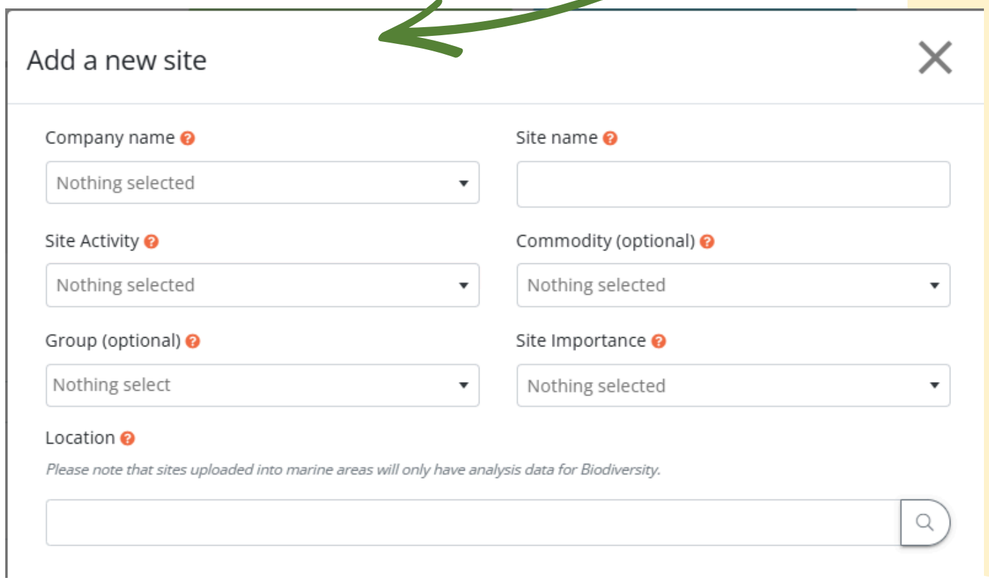
www.riskfilter.org

Input

Portfolio Manager

Add Company

Analyse Biodiversity | Analyse Water | Add site



Output: Risks (กายภาพ, ขาดกฎระเบียบ, ชื่อเสียง)

Biodiversity Risk Filter

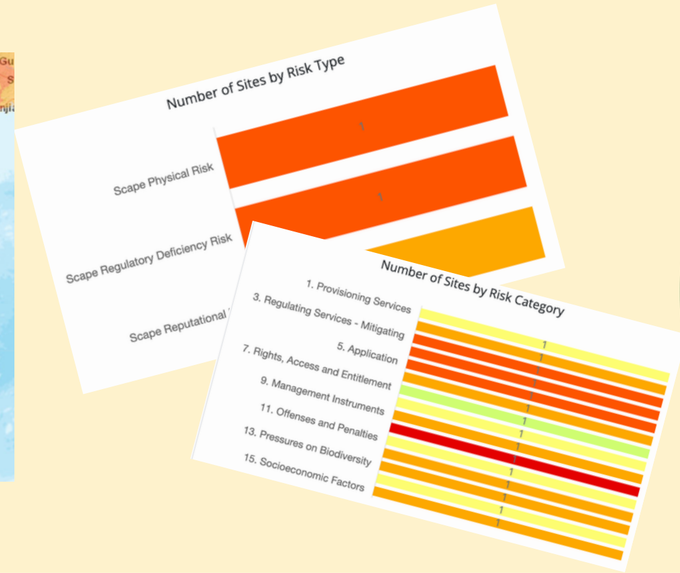
Physical Risk
Regulatory Deficiency Risk
Reputational Risk

Water Risk Filter

Basin Risk
Physical Risk
Reputational Risk

Operational Risk
Physical Risk
Regulartory Risk
Reputational Risk

Formats:



มูลนิธิแม่ฟ้าหลวง ในพระบรมราชูปถัมภ์
Mae Fah Luang Foundation under Royal Patronage

Thank you

www.maefahluang.org