

Scoping outline

Marine biodiversity and ecosystem service assessment in Thailand

Setting the scene: Biodiversity and Ecosystem Services in Science and Policy Platform

1 why marine and coastal

2 current situation state of BD&ES etc. and pressure

3 new driving force carbon neutrality, biodiversity based tourism, impact of CC on BD&ES, Post 2030 agenda, population growth etc.

4 existing knowledge

5 stakeholder and needs for SPP

6 communication through a common understandable language

Status, Trends and Future Dynamic of Marine Biodiversity and Ecosystems Services Underpinning Nature's Benefits to People

1 Past and current research on marine biodiversity and ecosystem services

2 Classification of marine biodiversity (ecosystem structures, function and processes) and ecosystem services

3 Indicators of identified marine biodiversity and ecosystem services

4 Ecological assessment of marine biodiversity and ecosystem services

5 Linking selected ecosystem services to indicators of healthy marine biodiversity

6 Monitoring and evaluation of marine biodiversity and ecosystem services

7 Integrated ecosystem assessment to build and enhance resilient social-ecological systems and enable nature-based solutions.

8 Gaps in knowledge and the capacity building needed to understand nature's benefit to people

Direct and Indirect pressure and Impacts on Marine Biodiversity and Ecosystem Services.

1 Pressures and threats

- **Pressures**

- **Threats**

(i) Direct threats include:

- **Fisheries**

- **Tourism**

- **Shipping**

- **Changes in coastal land use and other uses in coastal areas**

- **Coastal industries**

(ii) Indirect threats include:

- **Natural hazards**

- **Climate change**

2 Impacts to human well-being

In the form of 7 dimensions of human security including

1) food security, such as food shortages and contaminated food, etc.

2) Economic security, such as a decrease in income,

3) Health security, such as illness,

4) Environmental security, such as a decrease in the diversity of organisms

5) Personal security

6) Community security, such as resource conflict

7) Political stability, such as changes in policies and plans

3 Response to changes in Marine Biodiversity and Ecosystem Services

Biodiversity and Ecosystem Services: Socio-economic Development and Human Well-Being

1 The concept of economic value of biodiversity and ecosystem services in the age of the Anthropocene

i. Consider the services that nature provides (the work of natural sciences)

ii. Calculate the economic benefits of those services (the work of economists)

iii. Create a plan that protect those services based on their true economic value (building on i and ii)

2 *The economic benefits of services provided by coastal and marine ecosystems:*

- i. The existing body of knowledge worldwide
- ii. The existing body of knowledge specific to Thailand
 - a) What do we know about the value of Thailand's coastal and marine natural capital?
 - b) What do we know about the value of the flows of services from Thailand's coastal and marine resources?
- iii. What is the knowledge gap? And what the pragmatic approaches to filling in that knowledge gap? The emphasis is on the word 'pragmatic'
 - c) Involves prioritization
 - d) Making decisions about what information can be used as proxy values until Thailand can generate its own body of knowledge
 - e) Procedural guidelines and capacity building
 - f) What is the funding gap to generate the body of knowledge to fill the gaps.
 - g) Gaps in knowledge needed to understand nature's benefit to people goods

3 *The nature-based solutions. (moving forward from recognizing and calculating the values to capturing the values for sustainable uses)*

4 *What is realistic for Thailand and what will it take to get there*

5 *What are the costs of inaction? Is inaction a choice?*

Indigenous and local knowledge (ILK) in Thailand National Ecological Assessment

1 The importance and contribution of ILK in additional understanding of ecological "services" and in the assessment of marine ecosystem change in Thailand.

- i. ILK as a significant part of multi-evidence based (MEB) approach**
- ii. ILK and practices are part of multiple values in ecosystems and biodiversity**
- iii. ILK has the underlying principle of ecosystem stewardship expressed through customary management and rules**
- iv. ILK is generally adaptable and innovative**

2 Selective literature review on the concepts of ILK and National Ecological Assessment.

3 Explore marine ecosystem status and change

4 Identify gaps in knowledge and data.

5 Identify key policy questions.

The data will be collected from short field visits and working with Indigenous peoples and local communities (IPLCs) and intermediary organizations. Some example questions (from past research and field experiences) are,

6 Methodologies for participatory evaluation.

- i. Public communications
- ii. Select communities or sites
- iii. Organize Focus Group Discussions (FGDs) or small group meetings
- iv. Identify participatory research case study/ies for potential use in Evaluation Stage)

7 Conduct and write up ecosystem assessment/evaluation of the selected case study (all teams should focus on the same province)

- i. Conduct participatory research to mobilize ILK in Thailand NEA and to analyze ILK and ecosystem services
- ii. Write up the findings and analysis

8 Lessons learned that may be useful or relevant for other countries that include ILK in NEA

Options for Policies, Governance and Institutional Arrangements for Biodiversity and Ecosystem Management

1 National plans and strategy

2 Legal and regulatory framework (parts of second order governance) or national law and institutional arrangements as related to governing marine and coastal resources in Thailand

3 Some significant supporting mechanism/Instruments (Selected)

4 Findings governance and linkage to other existing international instruments

5 Proposed governance institutions (draft)