Environmental Impact of Marine Tourism

Measuring the Sustainability of Tourism (MST): Symposium on Country Experiences and 3rd Meeting of the Expert Group

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6. Protect environment sustainability, disaster prone, and climate change resilience ecosystem.

**Priority Program**
Strengthening the Pillars of Economic Growth and Environment Sustainability

**Priority Activity**
Increasing the Availability and Quality of Data and Information on Economic Development, especially Food, Maritime Affairs, Tourism, Creative Economy, and Digital Economy.

**Priority**
Improving the availability and quality of Maritime data and information.

There is a lot of agreement that the ocean is both important and threatened. Unless we have coherent measurements, we will never know how important or how threatened they are.

SDGs 14 "Conserving and Sustainably Utilizing Marine and Ocean Resources for Sustainable Development".

The ocean accounts manual will address many of the targets and indicators related to SDG 14. It does so by providing guidance on integrating ocean-relevant data.
Indonesia Marine and Coastal Benefits

• In addition to its potential in the fisheries industry, Indonesia's sea is renowned for its rich biodiversity and beautiful beaches, which attract both domestic and international tourists.
• Indonesia's marine tourism represents 35% of the country's total natural tourism potential. (MoT, 2015)
• Maritime tourism in Indonesia's top destinations has grown. It is estimated that the marine tourism sector has a potential annual revenue of US$ 29 billion, but this potential has not been fully developed. (MMAF, 2014)
• As the world's coral diversity hotspot, Indonesia has an area of approximately 2.5 million hectares and is home to 67 percent of the world's coral, which has provided numerous benefits such as tourism and food security. (BPS, 2019)
IN-DEPTH STUDY SEEA: OCEAN ACCOUNTS

Topics of In-depth Study SEEA

2016-2017
EPEA/EGSS

2018
SEEA for Agriculture, Forestry, and Fishery

2019-2020
Sustainable Tourism

2021-2022
Ocean Accounts

Ocean Economy Clusters

Fisheries
Marine (manufacturing) Industries
Marine Transportations
Marine Tourism
Marine Services
Marine Construction
Defence, Security, Law Enforcement and Safety at Sea

Energy and Mineral
Biotechnology Industries
SCOPE OF IN-DEPTH STUDY

2021 In-depth Study SEEA – Ocean Accounts was conducted in 17 provinces:

- Aceh
- Jambi
- Bengkulu
- Lampung
- Kepulauan Riau
- DI Yogyakarta
- Jawa Timur
- Banten
- Nusa Tenggara Timur
- Kalimantan Barat
- Kalimantan Timur
- Sulawesi Utara
- Sulawesi Selatan
- Gorontalo
- Sulawesi Barat
- Maluku
- Papua

The survey samples were establishments which fulfilled at least one of the following characteristics:

1. Economic activity that is physically located on the ocean
2. Economic activity that is physically proximate to the ocean
3. Economic sectors, located on land, that depend on natural inputs from the ocean environment
4. Economic activity that provides goods or services to sectors located on the ocean

In addition to In-depth Study SEEA – Ocean Accounts, BPS also involved in the compilation of pilot ocean accounts for Gili Matra Marine Protected Area (MPA), which is located in Nusa Tenggara Barat Province.

The pilot study focused on compiling:

- Ecosystem Extent Accounts
- Ecosystem Condition Accounts
- Ecosystem Economic Value
- Solid Waste Accounts
RESEARCH QUESTIONS

How much natural resources are used by marine activities, particularly by marine tourism?

How much solid waste and wastewater are produced by marine activities, especially by marine tourism?

How well are solid waste and wastewater managed by marine activities, particularly by marine tourism?
KEY FINDINGS:
EMPLOYMENT AND LABOR PRODUCTIVITY

- Marine tourism is the 3rd labor absorber among the main marine activities. On average, a marine tourism establishment needs 26 employees to run its production activity.
- Marine tourism has labor productivity (ratio of output by the number of employees) of 52 million rupiahs per employee, which imply by average an employee in marine tourism can earn 4 million rupiahs or around US$ 278 per month.
Of the nine marine clusters, marine tourism is found to have the second least amount of intermediate consumption which signify efficient use of intermediate consumption compared to other marine clusters.
3.5% of total solid waste produced by marine tourism flows to the ocean. Most of solid waste generated by marine tourism is dumped in the landfill (64.44%).

2.03 percent of total wastewater produced by marine tourism flows to the ocean. The remaining of the total wastewater is treated in septic tank (97.97%).

### Percentage of solid waste by type of solid waste generated by marine tourism in Indonesia

- **Animal and vegetable waste**: 47.06%
- **Mixed residential and commercial waste**: 26.06%
- **Non-metallic recyclables**: 15.72%
- **Mineral waste and soil**: 5.55%
- **Combustion waste**: 3.00%
- **Other solid waste**: 2.61%
The results of this study have been discussed in national and international forums including Indonesia Ocean Account Collaboration Committee, PARIS21, Conservation International, and Ocean for Development Program forum with SSB-Statistics Norway, and other ocean accounting-related forums.

In addition, results have fed the Gili Matra Pilot Ocean Account where a number of policy applications were developed, one of which is to provide feedback for the improvement of area zoning in the Gili Matra Marine Protected Area.

Since March 2022, data collection has been expanded to the remaining 17 provinces in Indonesia with the objective to generate national-level data.
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