

KONEKSI Digital Transformation

Who Governs the Ocean? Rethinking with Ocean Accounts

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Smita Tanaya (WRI Indonesia); Dominika Wara Christiana (Universiteit Van Amsterdam);
Nabilah Luthfatur Rohmah (WRI Indonesia).

Introduction

This study titled *Enhancing Evidence-based Marine Policy through The Utilization of Ocean Account* is a collaborative research project between World Resources Institute (WRI) Indonesia and University of New South Wales (UNSW) Sydney. It aims to support the government of Indonesia in utilizing and integrating Ocean Accounts (OA) into the decision-making process to achieve sustainable ocean management.

Specific Focus of This Study

This study focuses on **collecting information on ocean-related priorities and decision-making processes** and assessing how the **Ocean Accounts framework** can be applied to strengthen these processes. It involves mapping stakeholders, institutional arrangements, and existing data systems—particularly in **Riau and West Nusa Tenggara Provinces**—to identify opportunities, challenges, and capacities for implementing Ocean Accounts in support of Indonesia's blue economy agenda.



Knowledge Partner



Strategic Partner



Ocean Accounts Framework

Ocean account is a structured compilation of information – maps, data, statistics, and indicators – regarding marine and coastal environment, including related social circumstances and economic activity and its impact (GOAP, 2021).

Elements of Ocean Accounts

Environmental assets

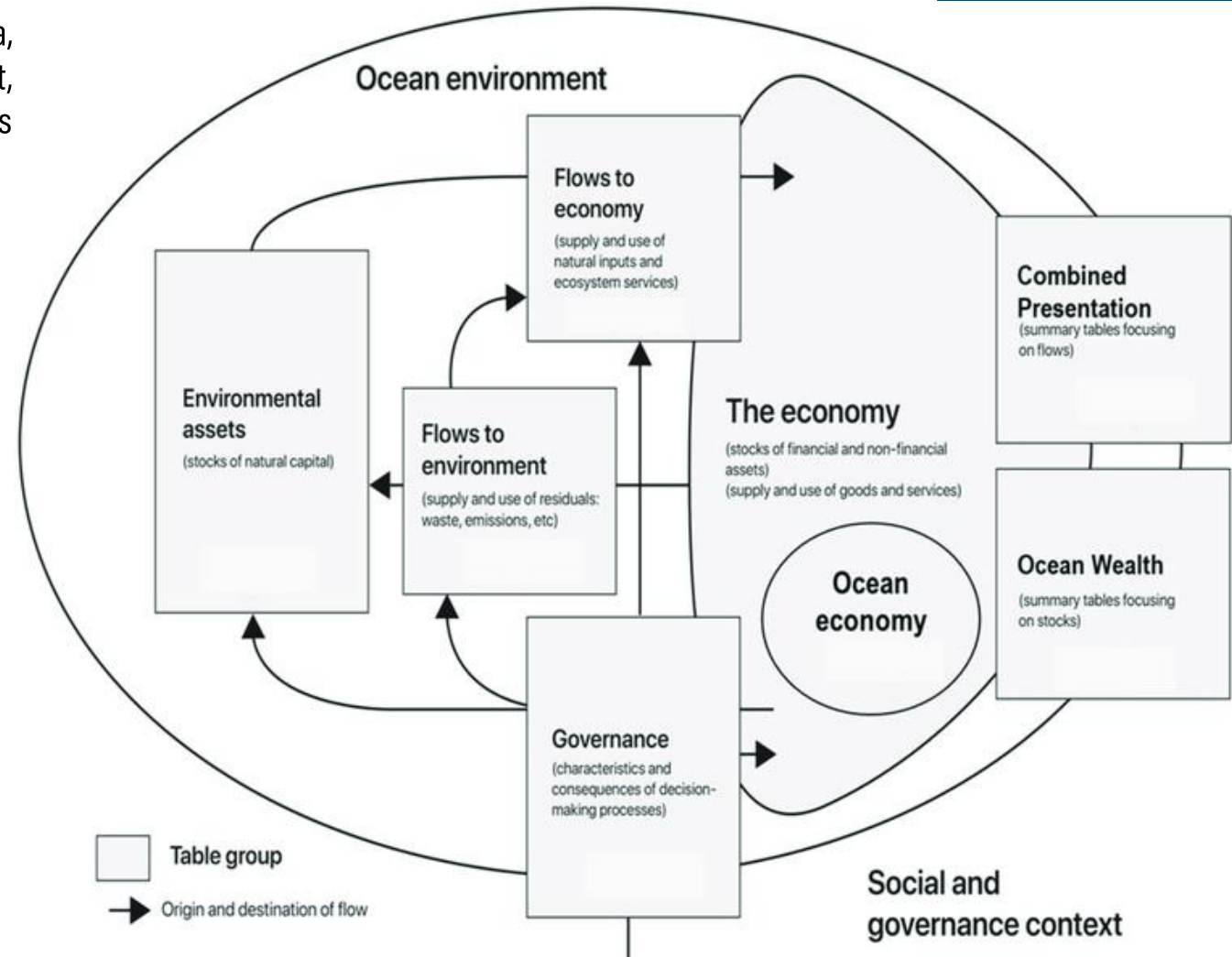
Elements of nature that provide benefits to society and the economy. The benefits also include ecosystem services. It accounts *extent* and *condition*

Flows to economy

Traces flows from the environment – benefits, ecosystem services – from environmental assets to society/ economy, to measure dependencies

Flows to environment

Residual or waste from the economy that flows to the ocean in the form of pollution and emission, and their impacts on coastal and marine ecosystem



Ocean Accounts Framework

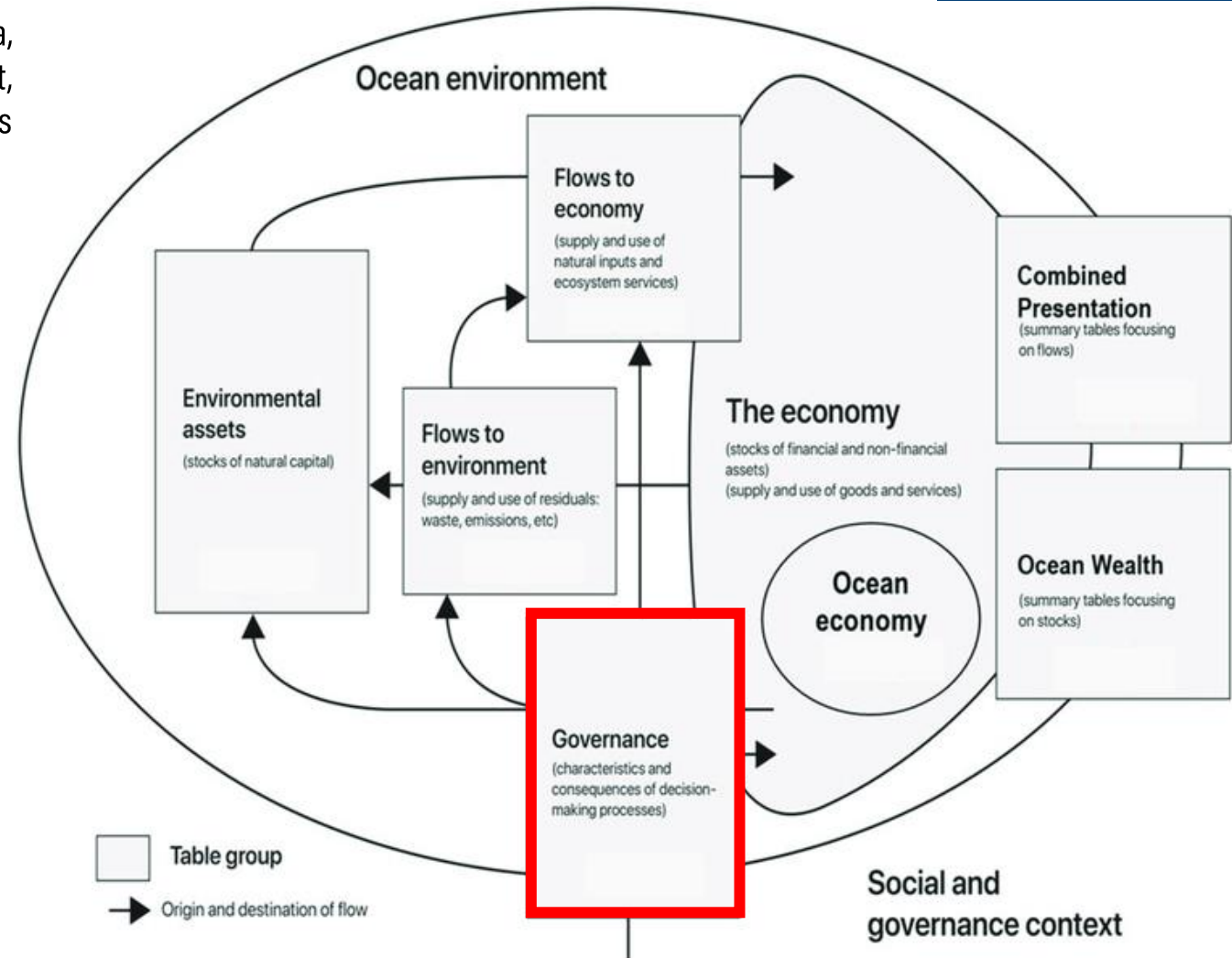
Ocean account is a structured compilation of information – maps, data, statistics, and indicators – regarding marine and coastal environment, including related social circumstances and economic activity and its impact (GOAP, 2021).

Elements of Ocean Accounts

Governance

Information concerning decision-making about oceans and wider context in which such decisions are made.

The information includes any details regarding management strategies of ocean, laws and regulation, social inclusion, etc.



Objectives

To explore **how ocean governance in Indonesia can be strengthened through the Ocean Accounts framework**, by identifying key actors, priorities, and decision-making processes that shape sustainable ocean management.

Specifically, the study aims to:

1. Assess how **Ocean Accounts** can support evidence-based and inclusive marine policymaking;
2. Map **stakeholders, roles, and institutional dynamics** in ocean-related decision-making; and
3. Identify **challenges, opportunities, and capacities** for implementing Ocean Accounts at national and sub-national levels.

Research Questions

How can Ocean Accounts initiatives in Indonesia be leveraged to rethink ocean governance and advance evidence-based as well as sustainable marine policymaking?



Methodologies

The study combined **qualitative and participatory approaches** to explore how Ocean Accounts can strengthen ocean governance in Indonesia.

Frameworks Used

1. **Actor-Network Theory (ANT):** to identify key actors and analyze their relationships and influence in ocean governance.
2. **Social Network Analysis (SNA):** to map interactions, collaboration, and power dynamics among stakeholders.
3. **Ocean Accounts Diagnostic Tool:** to assess policies, data systems, and institutional readiness for implementing Ocean Accounts.

Data Collection

1. **Participatory Focus Group Discussions (pFGDs):** gathered perspectives from national and sub-national stakeholders (e.g., Riau and NTB).
2. **In-depth Interviews:** with experts and government representatives to understand current challenges and opportunities for Ocean Accounts integration.



The background image shows a boat on a body of water, with a blue overlay. The boat has a flag and some text on its side. The text "Our Findings: Riau Province" is overlaid in the center.

Our Findings: Riau Province

Photo credit: Poriaman Sitanggang

Riau Province

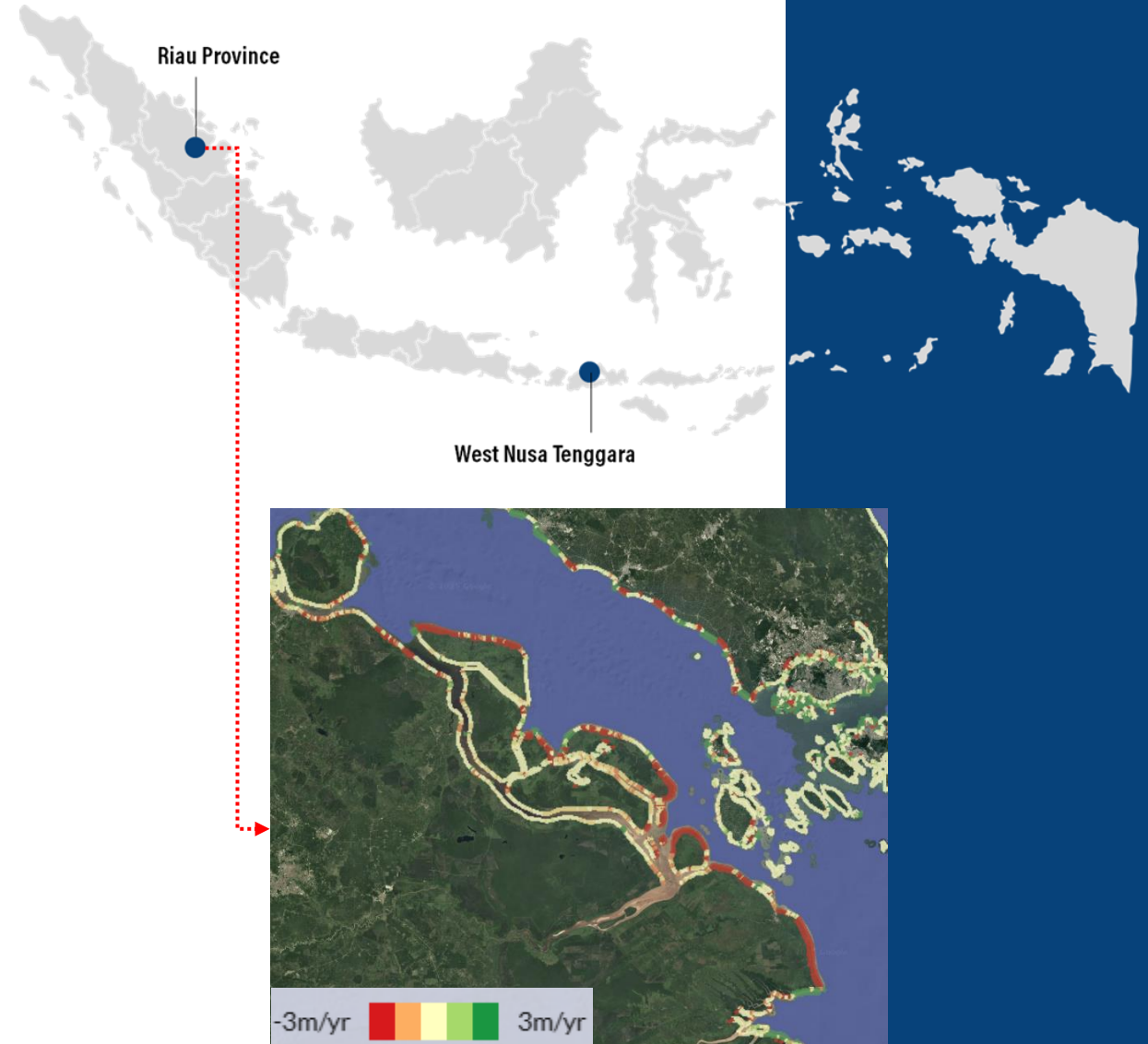
Riau Province is located on the central part of Sumatra's eastern coast. It faces the Strait of Malacca, which lies between the province and Peninsular Malaysia.

The Fisheries and Marine Affairs Office of Bengkalis Regency prioritizes tackling **coastal erosion and sedimentation** in the region's coastal areas. Coastal erosion has been a critical issue over the past decade, with land losses averaging 30 meters per year.

Bappedada of Bengkalis Regency has set a target to mitigate erosion along 40,550 meters of coastline.

Indragiri Hilir is targeting an effort to mitigate 19,100 meters of its coastlines. Additionally, they focus on controlling environmental degradation, promoting renewable energy development, and improving the management of natural resources.

When the p'FGD was conducted, Ocean Accounts **initiative or utilization has not been showing progress**. However, respondents recognized the potential of OA to support them in achieving their institutional and policy priorities.



Long-term Shoreline Changes between 1984-2016

(Luijendijk et al., 2018)

Riau Province: Opportunities and Available Resources



Opportunities

- **Collaboration and policy alignment** among stakeholders
- **Ecosystem restoration and resilience** through mangrove rehabilitation programs until 2030
- **Low-carbon and sustainable development** to achieve emission reduction target
- **Enhancing the economy opportunities of coastal communities**, especially through ecotourism initiative
- Establishing regulations for data-driven coastal and marine management
- Further facilitating villages and preserving local wisdom related to coastal issues.



Available Resources

Data

- Mangrove areas and health index
- Coastal zonation for aquaculture, conservation and other uses
- Waste generation
- Illegal, Unreported, and Unregulated (IUU) fishing cases

Capacities

- Human resources (enumerators, surveyors, officers) to collect data on socio-economic aspects, biophysical measurement, fisheries, waste generation
- Capability to develop technical plans
- Public consultation process for policy direction planning

Riau Province: Challenges and Unavailable Resources



Challenges

- Challenges in **strengthening the institutional capacity** of community groups at the village level.
- Difficulties in securing and raising **funds for sustainable development programs**.
- Frequent **regulatory changes** that complicate coordination and implementation across various government levels.
- **Inconsistent translation of regulations** to the local level.
- **Miscoordination** and the **lack of cross-sectoral and multi-level** consolidation forums.
- Difficulty in finding **alternative livelihoods** for communities, alongside the challenge of raising awareness about unsustainable economic activities.



Unavailable Resources

Data

- The calculation of monetary values and ecosystem services
- Evaluation of potential marine and coastal resources
- Coastal erosion rate and impact of coastal erosion

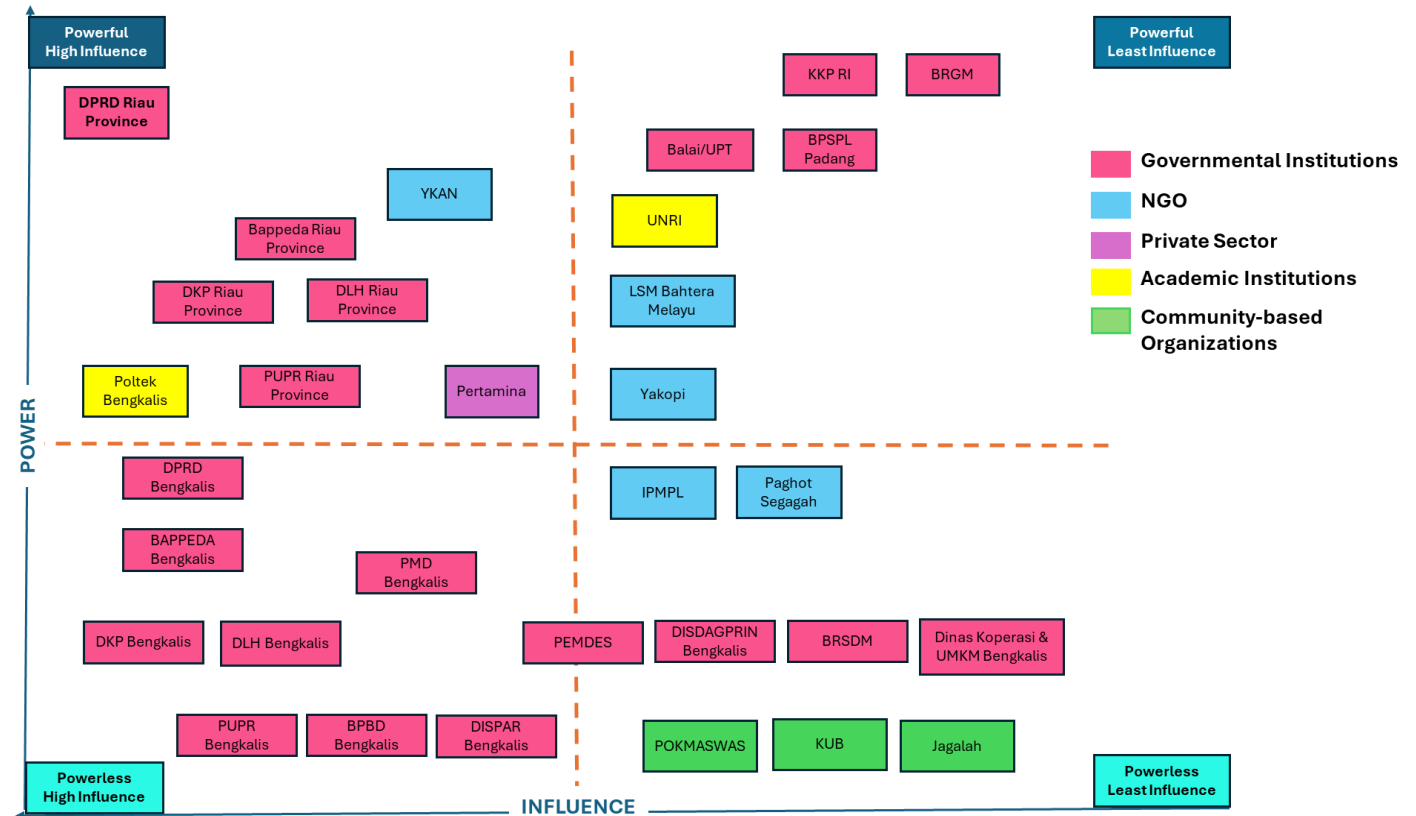
Capacities

- Enhanced knowledge and analytical skills related to ocean account
- Statistics
- Capacity to guide and assist stakeholders at the regional and community level

"A key challenge lies in ensuring synergy, transparency, and standardization in data collection and sharing across institutions"

Riau Province: Stakeholder and Networks

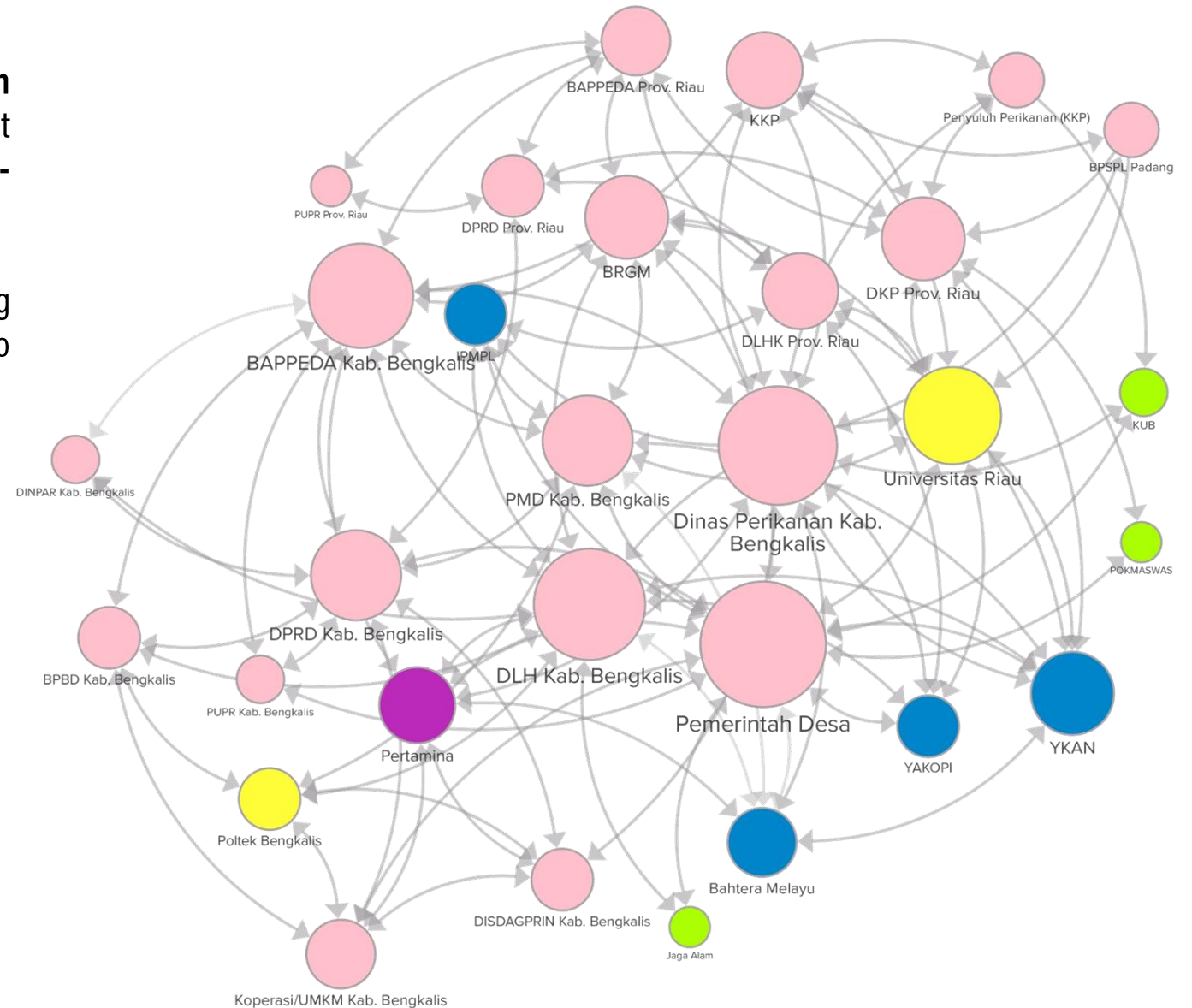
- The analysis in Riau revealed that **ocean governance is characterized by complex, overlapping networks** of actors operating at national, provincial, and district levels — but without a clear coordination mechanism.
- While **BAPPEDA** (especially in Bengkalis Regency) acts as a central coordinator connecting environmental, fisheries, and development agendas, **decision-making remains fragmented**, reflecting sectoral silos and weak integration across institutions.
- At the national level, ministries such as **KKP, KLHK, and BAPPENAS** possess strong authority but limited direct influence locally, resulting in gaps between national policy intent and regional implementation. Meanwhile, **universities (Universitas Riau)** and **civil society organizations (e.g., YAKOPI, Bahtera Melayu)** serve as important knowledge brokers and community intermediaries, yet their involvement is often project-based rather than institutionalized.



Riau Province: Stakeholder and Networks

Social network mapping also showed that **coordination dominates relationships** (rather than partnerships or joint planning), indicating a need for **more collaborative and multi-level governance structures**.

Strengthening cross-agency links, clarifying roles, and embedding Ocean Accounts within existing planning processes are key to making ocean governance more coherent and data-driven.





Our Findings: NTB Province

Photo credit: Poriaman Sitanggang

NTB Province

West Nusa Tenggara (NTB) Province mainly focuses on two priority areas:

- Strengthening food security, including fisheries and aquaculture.
- Promoting tourism and leveraging it for community-based development.

Following this, Sumbawa Regency has set targets:

- To become the largest shrimp producer in Indonesia.
- To expand marine conservation areas
- To reduce waste through stricter monitoring, aiming for a 52% reduction during the 2025-2026 period, with a current 10% improvement.

OA initiative in NTB Province has shown more visible progress, mainly for pilot project on marine protected areas, which mainly introduced by NGOs.

A major challenge in OA implementation stems from fragmented and undocumented data collected by various entities.



NTB Province: Opportunities and Available Resources



Opportunities

- In NTB Province, there are **numerous partners available** for collaboration, networking, and cooperation, particularly in sustainable marine resource management.
- The **vision and mission of the elected governor align with sustainable development plans.**
- The **presence of government institutions dedicated to managing conservation areas.**
- Opportunities for sustainable marine resource management through **village funds.**
- **Strong community support** for sustainable marine resource management.
- A robust regulatory framework supporting sustainable marine resource management



Available Resources

Data

- Mangrove index map and status
- Seagrass and mangrove biota data
- Waste accumulation data
- Toursim data
- Fisher population and fisheries economic valuation

Capacities

- Infrastructure such as fisheries product quality laboratory, water testing laboratories, managed by government and universities
- Experts on seagrass, coral reef, and social economic

NTB Province: Challenges and Unavailable Resources



Challenges

- **Limited funding and infrastructure**, with heavy reliance on government and partner budgets.
- **Shortage of skilled personnel** and overall human resources for sustainable marine management.
- **Poor coordination and unclear governance**, including jurisdictional overlaps and differing priorities.
- **Fragmented data and weak planning**, with limited integration and focus on marina protected areas.



Unavailable Resources

Data

- Conservation area and systematic monitoring
- Coastal ecosystem map
- Erosion impact data
- Ecosystem services and economic valuation
- Marine debris data
- Data for funds justification

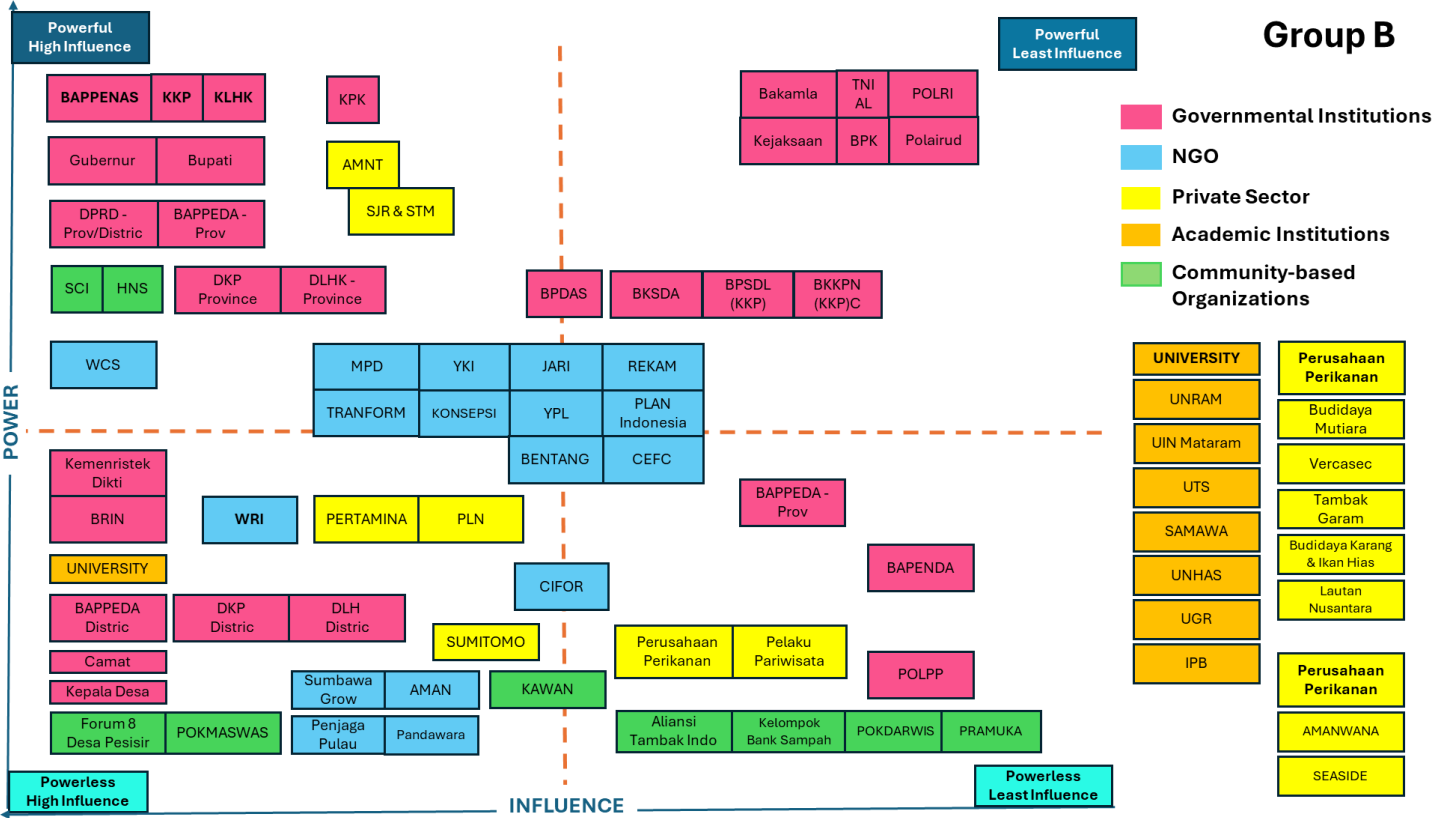
Capacities

- Specialized expertise on environmental education, statistics, socio-economic monitoring, GIS, or OA in general
- Improved facilities and equipment
- Conservation management and community empowerment
- Spatial planning

NTB Province: Stakeholder and Networks

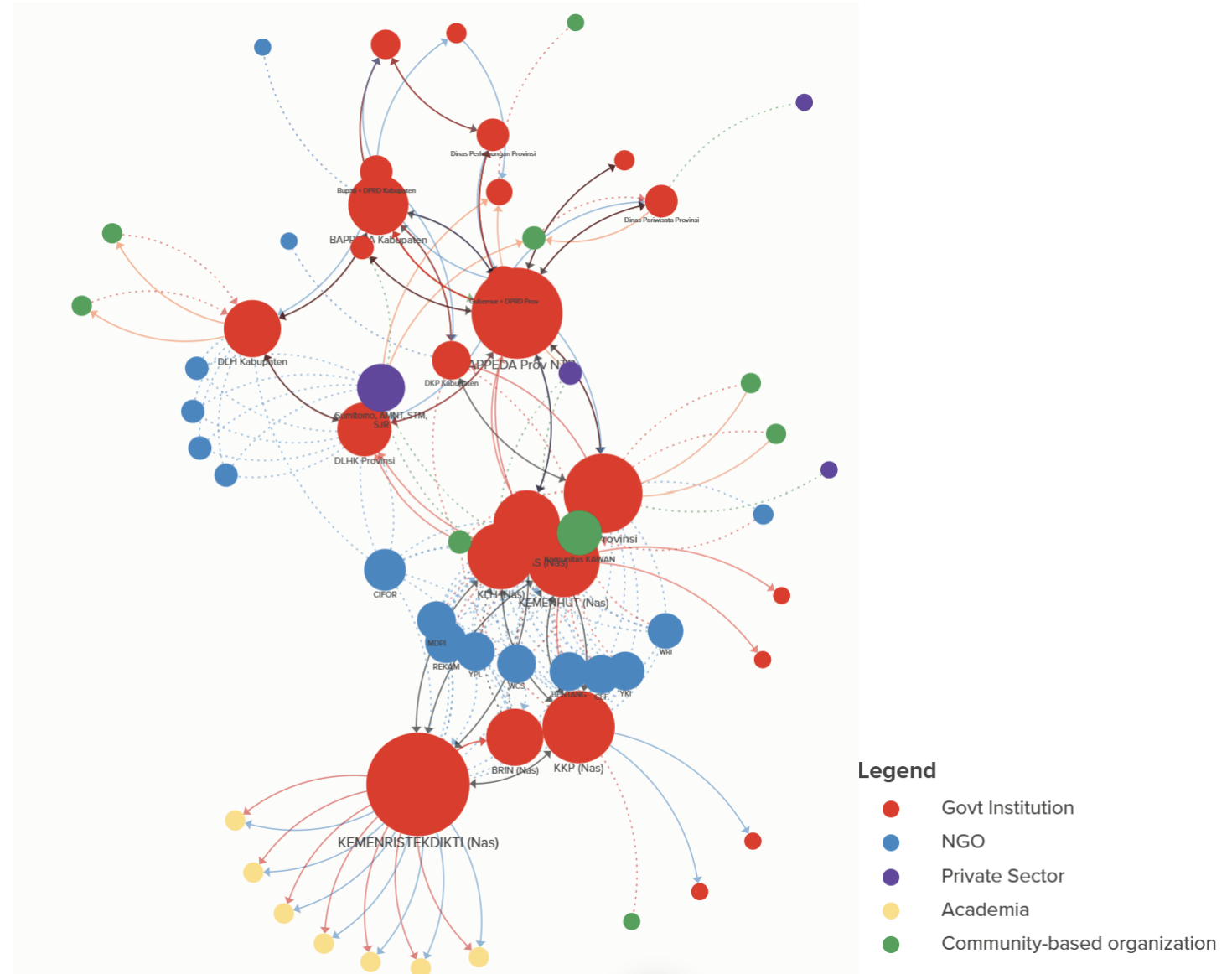
In NTB, ocean governance is shaped by a **diverse but loosely connected network** of government agencies, academia, and local organizations. **BAPPEDA** again plays a central coordinating role, while **DKP (Marine and Fisheries Agency)** and **DLH (Environmental Agency)** lead on technical aspects of marine management. However, their work often occurs in silos, with limited data sharing and joint planning.

Universitas Mataram and local NGOs such as **REKAM Nusantara** and **Bentang** contribute valuable research and community facilitation but lack consistent engagement in policy processes. Coordination with national institutions (KKP, KLHK, BRIN) is mostly program-driven rather than systemic.



NTB Province: Stakeholder and Networks

Overall, NTB's governance network shows **high institutional enthusiasm but low integration**, highlighting the need for a more connected, data-informed approach—where **Ocean Accounts** can serve as a common framework linking environmental, social, and economic dimensions of marine policy.



Conclusion

This study highlights how Ocean Accounts (OA) can be a powerful tool to rethink ocean governance in Indonesia and advance evidence-based, sustainable marine policymaking. By focusing on Riau and NTB, we've identified that while OA has great potential, there are critical gaps in governance structures, data integration, and capacity that currently limit its effectiveness.

How to leverage OA in Indonesia?

1. **Strengthen coordination among stakeholders** (government, academia, civil society, local communities) to create an inclusive governance framework.
2. **Enhance technical capacity** and data accessibility, ensuring that decision-makers have the tools and information needed for effective management.
3. **Build governance structures** that support OA's implementation at both the national and sub-national levels, ensuring it's integrated into policy, planning, and budgeting.
4. **Raise awareness** among policymakers and communities on how OA can support sustainable livelihoods and conservation goals, fostering long-term buy-in.

By addressing these priorities, OA can transform Indonesia's ocean governance, ensuring that policies are more informed, inclusive, and aligned with sustainable development goals.



Thank you!

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