

INDONESIA OCEAN JUSTICE INITIATIVE The A



# BLUE CARBON ECOSYSTEM AS CRITICAL NATURAL CAPITAL: Strengthening Blue Carbon

Strengthening Blue Carbon Ecosystem Governance in Indonesia

**EXECUTIVE SUMMARY** 

# Blue Carbon Ecosystems as Critical Natural Capital: Governance of Blue Carbon Ecosystems in Indonesia

The worsening impacts of climate change due to human activities are predicted to pose a significant threat to oceans and coastal areas.<sup>1</sup> On the other hand, 17% of the world's blue carbon reserves are found in Indonesia.<sup>2</sup> These reserves present a significant opportunity for Indonesia to utilize the Blue Carbon Ecosystem (BCE) as a solution to address climate change.

Despite the considerable potential of BCE in addressing climate change and improving the well-being of coastal communities, these ecosystems have long been threatened by anthropogenic pressures.<sup>3</sup> Pressures and threats to the health of BCE are caused by aquaculture activities, mangrove deforestation, agriculture, coastal development, pollution, and unsustainable/destructive fishing practices.<sup>4</sup> In Indonesia, aquaculture, palm oil plantation, and coastal area development are the main causes of mangrove ecosystem degradation.<sup>5</sup> When degraded, BCE transitions from being a carbon-absorbing ecosystem to a significant contributor to Greenhouse Gas (GHG) emissions.<sup>6</sup> BCE degradation also harms the protection of coastal ecosystems and jeopardizes the livelihoods of communities dependent on BCE.

Using a normative-empirical study method and a comparative approach, this study examines 6 (six) elements of BCE governance, namely: (1) national legal and policy framework; (2) institutional arrangements; (3) community engagement and empowerment; (4) tenurial security; (5) monitoring and enforcement; and (6) financing and equitable benefit sharing. This study is expected to answer three main questions. First, how does the national legal and policy framework regulate BCE management? Second, what are the main challenges faced by government and non-government actors in providing effective protection for BCE and the communities that depend on BCE (blue carbon dependent people)? Third, what kind of policies need to be pursued to strengthen BCE protection and empower people who depend on BCE?

<sup>1</sup> OECD, Adapting to a changing climate in the management of coastal zones, Environment Policy Paper no. 24, 2021

<sup>2</sup> Alongi et al., "Indonesia's blue carbon: a globally significant and vulnerable sink for seagrass and mangrove carbon", 2015.

<sup>3</sup> Anthropogenic pressure is defined as "human activity, whether intentional or unintentional, and carried out continuously, which has a negative impact on society because it triggers or accelerates the occurrence of disasters" (Gill & Malamud 2017: 248)

<sup>4</sup> Dorothee Herr, et al., "Pathways for implementation of blue carbon initiatives", Aquatic Conservation Vol. 27, (2017).

<sup>5</sup> World Bank, The Economics of Large-scale Mangrove Conservation and Restoration in Indonesia, 2022.

<sup>6</sup> Maria F. Adame et al., "Future carbon emissions from global mangrove forest loss", Global Change Biology Vol. 27 (12), 2021.

# Key Findings

### **1. National Legal and Policy Framework**

From the aspects of legal and national policy framework, efforts to protect and manage BCE in Indonesia have been regulated in various legal regimes, namely the forestry regime, coastal and marine regime, environmental protection and management regime, spatial planning regime, and regional government regime. In these various legal regimes, there are already protection or safeguard instruments for BCE. However, not all BCE are protected or managed sustainably. For example, in the mangrove ecosystem, around 49% of the mangrove area in Indonesia is included in conservation and protected forest areas, and 3% is included in marine conservation areas. However, mangroves that are not included in protected areas continue to be threatened by anthropogenic pressures. Moreover, the Job Creation Law, which has been enacted since 2020, regulates some exempting provisions to the existing conservation measures that can weaken the protection and safeguards of the BCE.

## 2. Institutional Arrangement

As a cross-sector issue, BCE management is carried out at various administrative levels and jurisdictions.<sup>7</sup> Mangroves are included in the category of coastal and small island resources based on Law No. 27 of 2007 jo. Law No. 1 of 2014 regarding Management of Coastal Areas and Small Islands (Coastal Areas and Small Islands Law)<sup>8</sup>, and is included in the forest category based on Law No. 41 of 1999 on Forestry (Forestry Law).<sup>9</sup> With that categorization, the Ministry of Environment and Forestry (MoEF) holds the main authority in managing mangroves in forest areas (state forest areas) and the Ministry of Maritime Affairs and Fisheries (MMAF) has authority over managing mangroves in coastal areas and small islands outside forest areas. The role of the MoEF in mangrove management is more significant because it has authority over 79% of mangroves in forest areas, compared to MMAF which has authority over 21% in non-forest areas.<sup>10</sup> Apart from these two ministries, there are other ministries and agencies at the central and regional levels which also have authorities to manage mangroves.

<sup>7</sup> Krott, M. (2005). Forest Policy Analysis. Dordrecht Springer. References Scientific Research Publishing.

<sup>8</sup> Ibid.

<sup>9</sup> Indonesia, Forestry Law, Law no. 41 of 1999, Article 1 paragraph (2).

<sup>10</sup> Directorate of Soil and Water Conservation, Ministry of Environment and Forestry, National Mangrove Map 2021, (Jakarta: Ministry of Environment and Forestry, 2021), p. 21.

Distribution of Authority in Mangroves Management in Indonesia			
Ministries and/ or Agencies	Authority	Regulations in Legislation	
Ministry of Environment and Forestry	Planning	Articles 10, 12, 17 (2), and 21 of the Forestry Law jo. Job Creation Law	
	Management and Utilization (including issuing permits and licenses)	Articles 21, 27 (4), and 31 (4) of the Forestry Law jo. Job Creation Law; Article 135 Government Regulation No. 23/2021 regarding Forest Area Management	
	Supervision and Control (including law enforcement)	Articles 60 and 63 Forestry Law jo. Job Creation Law; Articles 266, 267, and 273 Government Regulation 23/2021 regarding Forest Area Management	
	Rehabilitation and Restoration	Articles 2 para. (2), 21, and 22 Presidential Regulation No. 120/2020 on Peat And Mangrove Restoration Agency (PMRA Presidential Regulation)	
Ministry of Marine Affairs and Fisheries	Planning	Articles 7 para. (2), 7B para. (2) of the Coastal Areas and Small Islands Law jo. Job Creation Law	
	Management and Utilization (including issuing permits and licenses)	Articles 4, 19 and 50 of the Coastal Areas and Small Islands Law jo. Job Creation Law; Article 5 of Minister of Marine Affairs and Fisheries Regulation No. 31/2020 concerning Management of Marine Protected Areas	
	Supervision and Control (including law enforcement)	Article 36 para. (1) of Coastal Areas and Small Islands Law jo. Job Creation Law	
	Rehabilitation and Restoration	Article 2 para. (2), 21, And 22 of PMRA Presidential Regulation	
	Research	Presidential Regulation No. 38 of 2023 on the Ministry of Marine Affairs and Fisheries	
Ministry of Agrarian Affairs and Spatial Planning	Planning	Article 8 para. (3) of Spatial Planning Law jo. Job Creation Law	
National Development Planning Agency/ Ministry of National Planning	Planning Management and Utilization (including issuing permits and licenses)	Minister of National Development Decree No. 89/2020 regarding the Establishment of Strategic Coordination Team for Wetland Management in Achieving Sustainable Development Goals and Low Carbon Development	

Distribution of Authority in Mangroves Management in Indonesia		
Regional Government	Planning	Article 7 para. (2) of the Coastal Areas and Small Islands Law jo. Job Creation Law; Articles 10 and 27 para. (2) of Law No. 23/2014 on Regional Government (Regional Government Law); Article 10 para. (2) of Law No. 26/2007 on Spatial Planning (Spatial Planning Law)
	Management and Utilization (including issuing permits and licenses)	Articles 14 para. (2) and 27 para. (2) of Regional Government Law
	Supervision and Control (including law enforcement)	Article 36 para. (5) of Coastal Areas and Small Islands Law jo. Job Creation Law; Article 14 para. (7) of Regional Government Law
Peat and Mangrove Restoration Agency	Rehabilitation and Restoration	Article 2 of PMRA Presidential Regulation
Coordinating Ministry of Maritime and Investment Affairs	Rehabilitation and Restoration (technical director team)	Article 14 para. (2) of PMRA Presidential Regulation
	Coordination	Presidential Regulation No. 92/2019 regarding Coordinating Ministry of Maritime and Investment Affairs
National Research and Innovation Agency	Research	Presidential Regulation No. 33/2021 on National Research and Innovation Agency

The distribution of responsibilities concerning seagrass ecosystem management appears to involve fewer ministries and agencies compared to mangroves management. Seagrass beds are classified as part of the coastal resources according to the Coastal Areas and Small Islands Law, hence granting authority to MMAF for the planning, utilization, as well as supervision and regulation processes, executed jointly with Regional Governments within their specified jurisdictions.

The engagement of multiple ministries/agencies holding authorities over BCE management may potentially lead to "bureaucratic rivalry". Additionally, the structural organization faces challenges in terms of limited human resource capabilities, and the ministry/agency performance metrics are predominantly based on budget utilization. To address these challenges, the legal framework governing BCE management needs to clearly define the delineation of functions, responsibilities, and jurisdiction on both a national and regional level. Collaborative efforts between coordinating institutions should be supported by comprehensive and inclusive action plans and strategic roadmaps for BCE management, complemented with outcome-based indicators for ministries/agencies. Moreover, bolstering regional institutions necessitates strengthening coordination bodies and multistakeholder forums.

## 3. Community Engagement

Community involvement in BCE governance should occur from the initial stages of planning and policymaking, focusing on site-specific ecosystem management. Engaging the community in the development and execution of BCE natural resource management initiatives, such as the blue carbon project, significantly contributes to fostering social resilience, upholding cultural values, and safeguarding ecosystem services crucial to their livelihoods.<sup>11</sup> Community engagement during the policymaking phase has been regulated under the Indonesian laws and regulations. However, despite having been regulated, there are still various hindrances that render this participation ineffective and appear more as a formality. One notable reason is the lack of adequate information provided to the public, hampering their ability to participate effectively.

Effective community involvement in the planning and policymaking process necessitates meaningful public participation. In the context of area-based ecosystem management, the community can engage through several avenues such as: (1) social forestry schemes; (2) customary forest schemes; (3) community conservation initiatives; (4) participation in the National Economic Recovery program; (5) BCE management via funding projects; and (6) participation in monitoring. However, these programs encounter various challenges due to limited community access to information concerning the aforementioned processes. To address this, assistance from government and civil society groups and the establishment of a multi-stakeholder forum for BCE management that involves community members are essential to ensure substantial public participation. Furthermore, the government needs to streamline the licensing process for communities engaged in managing BCE through social forestry and customary forest schemes, as well as other forms of community management stipulated in relevant laws and regulations.

## 4. Tenurial Security

The welfare of communities that depend on BCE requires guaranteed rights to use, manage and exploit resources. There are several instruments that can be used to ensure tenurial security for mangroves dependent people in forest areas and outside forest areas. In forest areas, social forestry is the most feasible instrument that can provide legal management with a fairly long licensing period (35 years). Management in non-forest areas needs to rely on collaborative management between communities and regional governments, including BCE in coastal areas. Therefore, a concept of coastal tenure is needed as a way to ensure the tenurial security of coastal communities to manage BCE. The concept of coastal tenure can be translated, among other things, through Other Effective Conservation Measures (OECM).<sup>12</sup>

Indonesia has great OECM potential and there are already several forms/models of coastal management through OECM that have been implemented in the regions. OECM can increase effectiveness, inclusiveness, and equitable conservation to empower local and indigenous communities, through collaboration with the government in conservation efforts. OECM can also contribute to achieving national and international targets for the number of marine conservation areas. There are already several forms of community management in Indonesia that have the potential to become OECM, such as the customary *Panglima La'ôt* in Aceh, Sasi in Maluku and Papua, Mane'e in North Sulawesi,

<sup>11</sup> Vanderklift, et al., "Constraints and opportunities for market-based and protection of blue carbon ecosystems," Marine Policy Journal, (2019), p. 1.

<sup>12</sup> OECM is defined as "Geographically defined areas, other than Protected Areas, that are managed and administered in ways that achieve positive and sustainable long-term outcomes for the maintenance of in-situ biodiversity with associated ecosystem functions and services and where applicable, values cultural, spiritual, socio-economic and other related local values." CBD Decision COP 14-8 (translated)

and community-based mangrove rehabilitation in Sinjai District, South Sulawesi.<sup>13</sup> Several experts have identified existing laws that can be interpreted to support OECM.<sup>14</sup> The OECM concept needs to continue to be discussed by various stakeholders, especially the government and experts, so that it is widely understood and can be clearly regulated in national and regional policies.

## 5. Monitoring and Enforcement

In general, monitoring and enforcement in BCE protection have been regulated in various laws and regulations, including the Forestry Law, Coastal Areas and Small Islands Law, Law No. 32 of 2009 on Environmental Protection and Management (Environmental Protection and Management Law), and Regional Government Law. Apart from being carried out by authorized officials, supervision can also be carried out by the community.<sup>15</sup> Efforts to supervise and enforce the law face several obstacles, including: (1) the limited number of human resources carrying out monitoring and enforcement which is not commensurate with the large number of activity permits that must be supervised; (2) imposition of administrative sanctions that have not been effective in encouraging compliance; and (3) low number of cases that are investigated and prosecuted using corporate criminal liability. These obstacles hinder the ability of surveillance officers and law enforcers to detect, respond, and punish to generate a deterrent effect.

## 6. Financing and Equitable Benefit Sharing

Enhanced opportunities to finance BCE in Indonesia have arisen following the enactment of Presidential Regulation Number 98 of 2021 on the Carbon Economic Value (Presidential Regulation on Carbon Economic Value). This regulation introduces a carbon trading mechanism and results-based payments, among others aimed at supporting mangrove conservation endeavors. Subsequently, the recent issuance of Minister of Environment and Forestry Regulation No. 21 of 2022 regarding the Procedures for Implementing the Economic Value of Carbon (MoEF Regulation 21/2022), marks another significant stride in recognizing and managing BCE. Presidential Regulation on Carbon Economic Value acknowledges the vital role of BCE in climate change mitigation, designating mangroves within the sub-sector implementing Carbon Economic Value. Despite these advances, Indonesia faces challenges in acquiring sufficient funding for BCE management, primarily due to: (1) limited APBN allocations; (2) the absence of a standardized method for calculating the carbon value of BCE; and (3) an insufficient understanding of the potential risks associated with BCE projects.

Effective BCE management must prioritize the community as the primary beneficiary. The fair distribution of these benefits should be driven by considerations of community welfare and their reliance on blue carbon ecosystem services. However, obstacles persist in ensuring equitable benefits distribution, primarily stemming from the lack of tenurial security for the community, hindering effective and equitable benefit allocation. To rectify this, the government needs to intensify efforts in empowering and protecting the rights of communities and ensuring tenurial security to enable an effective and equitable benefit sharing. Involvement of civil society groups and universities is crucial in assisting community engagement in the benefit distribution schemes within BCE management.

<sup>13</sup> Estradivari, et al., "Marine Conservation beyond MPAs: Towards the Recognition of Other Effective Area-Based Conservation Measures (OECMs) in Indonesia," Marine Policy 137,(2022), https://doi.org/10.1016/j. marpol.2021.104939.

<sup>14</sup> Ibid. Legislation that is considered to support the essence of OECD includes UU 5/1960, UU 5/1990, UU 31/2005 jo. Law 45/2009 jo. Job Creation Law, PWP3K Law jo. Job Creation Law, PPLH Law jo. Job Creation Law, Law 32/2014 jo. Job Creation Law.

<sup>15</sup> Indonesia, Law on Management of Coastal Areas and Small Islands, Law no. 27 of 2007 jo. UU no. 1 of 2014, Article 36 paragraph (6).

Moreover, the development of blue carbon projects in Indonesia should align with the principles outlined in the High-Quality Blue Carbon Principles and Guidelines (2022) established by the international blue carbon community.<sup>16</sup>

<sup>16</sup> World Economic Forum, Friends of Ocean Action, Salesforce, Ocean Risk and Resilience Action Alliance, Conservation International, and The Nature Conservancy, "High Quality Blue Carbon Principles: A Triple Investment Benefits for People, Nature and Climate", https://www3.weforum.org/docs/WEF\_HC\_Blue\_ Carbon\_2022.pdf accessed 10 December 2022



# SUMMARY OF STUDY RESULTS LEGAL & POLICY FRAMEWORK

## THE EFFORTS TO PROTECT & MANAGE THE BLUE CARBON ECOSYSTEM (BCE) IN INDONESIA ARE REGULATED IN VARIOUS LEGAL REGIMES.











#### VARIOUS LEGAL REGIMES IN INDONESIA HAVE REGULATED BCE PROTECTION INSTRUMENTS.

Nevertheless, not all BCE are protected or managed sustainably.

About 49% of mangrove areas in Indonesia is covered in conservation and protected areas (forestry)

**3%** of mangroves are in the marine conservation area

34%

of the total area of seagrass are in the marine conservation area

There are still areas of mangroves and seagrass that are not covered by any protection instruments, such as mangroves that are located in production forests and in the Other Land Use (APL) (1,708,085 hectares) which are vulnerable to land conversion.

For the areas where the communities whose livelihoods depend on the blue carbon ecosystem (blue carbon dependent people), there are some instruments that enable genuine community involvement, such as social forestry or other effective area-based conservation measures (OECM)

Based on the concept of strong sustainability, some natural capital/natural resources have important functions and cannot be replaced by man-made capital. This natural capital is called Critical Natural Capital.





BCE can still be converted even if it is protected.

THEREFORE, BCE NEEDS TO BE ACKNOWLEDGED AS CRITICAL NATURAL CAPITAL (CNC) AND SAFEGUARDED BY STRONG PROTECTION INSTRUMENTS

**Social Forestry** 

OFCI

## INSTITUTIONAL ARRANGEMENT



As a cross-sector issue, the management of BCE is carried out across different governmental levels and administrative jurisdictions.



Several institutions have authority for mangrove management. Without clear coordination, this could result in bureaucratic rivalry. Hence, it is crucial to strengthen the coordination function.



Another institutional challenge is that ministry/agency achievement indicators are still based on budget absorption.

Therefore, it is essential to implement an integrated approach between ministries and agencies to accomplish a shared objective. Ministry/agency performance metrics must be based on their contribution to achieving these objectives.

# COMMUNITY ENGAGEMENT AND TENURE SECURITY



The community's efforts to gain tenurial security are faced with several challenges. One of them is tenure conflicts, which can be caused by the lack of acknowledgment of community rights in community-based BCE management and bureaucratic challenges.



has been established (MoEF, 2023) Indicative/Potential: 1.088.149 Ha



Social Forestry target **12.7 Million** Ha Realization by Sept 2023: 6.371.773 Ha The rights to manage the coastal area may be granted to the indigenous people through

#### **Regulation of Regent/Mayor**

Based on the data from the Ministry of Marine Affairs and Fisheries, there are 18 Regulations of Regent/Mayor in 5 provinces that regulate this matter.

Free Prior Informed Consent.



To make community engagement effective in BCE management, the acknowledgment and fulfillment of the community rights, including their tenure, **need to be reinforced.** 



In addition, incentives for the community to engage in BCE management efforts need to be created, one of which is through the development of alternative livelihoods.

# MONITORING ENFORCEMENT

Monitoring and enforcement in BCE protection have been regulated in existing regulations, including:

- 🚺 Law No. 41 of 1999 on Forestry
- Law No. 27 of 2007 on the Management of Coastal Areas and Small Islands
- 3 Law No. 32 of 2009 on

**Environmental Protection and Management** 

Law No. 23 of 2014 on Regional Government

Apart from being carried out by enforcement officers, monitoring can also be carried out by the public.

MONITORING ENFORCEMENT MEASURES HAVE SEVERAL CHALLENGES, INCLUDING:

# The limited number of human resources conducting supervision and enforcement is not proportional to the numerous permits that need to be monitored.

Area of mangrove forests in Indonesia **3,364,080** Ha Regional Environmental Supervision Officers + Environmental Supervision Officers: 150

Ratio: 1 to **22,426** Ha.



The imposition of administrative sanctions has not been effective in encouraging compliance.

Only a few cases of mangrove destruction are processed using criminal legal instruments.

# FINANCING & EQUITABLE BENEFIT SHARING

## THE OPPORTUNITIES FOR BCE FUNDING SCHEME IN INDONESIA INCREASED AFTER THE ISSUANCE OF <u>PRESIDENTIAL REGULATION</u> NO. 98 OF 2021 ON CARBON ECONOMIC VALUE

Furthermore, the Government has just issued Regulation of The Minister of Environment and Forestry No. 21 of 2022 on Procedures for Implementation of Carbon Pricing.



**in 2021,** the government has acknowledged the term "blue carbon" as part of the climate change mitigations

Project

Develope

Mangrove management has also been included in the sub-sector in the implementation of the **Carbon Pricing.** 

# The challenges in obtaining funding for BCE management in Indonesia include:

Limitation of State Budget (APBN) for BCE funding The method for calculating the BCE carbon value has not been developed and socialized yet Inadequate knowledge of the risks that may arise from the BCE project

# Other important things to consider The community needs to be treated as

the main beneficiary of the BCE management measures.

The distribution of the benefits **must be** carried out equitably and by taking into account the community welfare and the community dependence on BCE.

However, tenurial insecurity can hinder people's right to receive benefits.

