Beyond Blue Carbon

Mangrove Governance, Biocultural Diversity, and Livelihoods in Southeast Asia



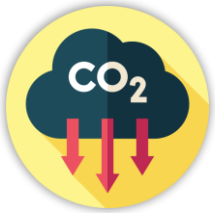
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CGSEA
CARBON GOVERNANCE IN SOUTHEAST ASIA

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FRAMING

When we talk about mangroves, what do we talk about?



Climate mitigation



Biodiversity



Coastal protection



FRAMING

Mangroves are lived landscapes

- Livelihoods and food security
- Local knowledge and practices
- Cultural relationships and identity
- Community stewardship





FRAMING

Biocultural diversity: connecting people and nature

MANGROVE LANDSCAPES

Ecological systems and lived environments

BIOLOGICAL DIVERSITY

Species, habitats and ecological processes

CULTURAL DIVERSITY

Identities, values and cultural connections

LOCAL KNOWLEDGE & PRACTICES

Livelihood activities, stewardship, knowledge and institutions



PEOPLE–NATURE RELATIONSHIPS

People depend on, shape, manage and attach meaning to mangrove landscapes.

Biocultural diversity highlights the interconnected relationships between biological diversity, cultural practices, local knowledge, and the ways people relate to and shape their environments.

RESEARCH APPROACH

Learning from mangrove landscapes across Southeast Asia



Nai Nang Apiculture Group, Krabi





Municipality of Del Carmen, Surigao del Norte



Mempawah Regency, West Kalimantan

Interviews | Focus group discussions | Stakeholder engagement | Participatory approaches

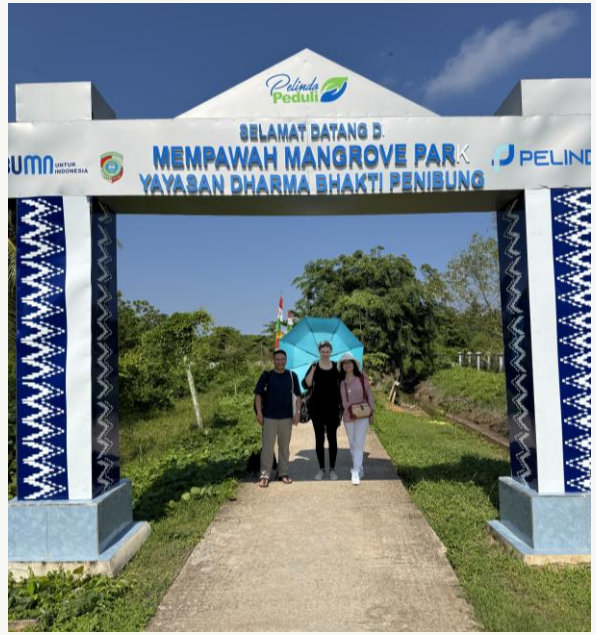
COMPARATIVE INSIGHT

Mangroves and coastal livelihoods

- Fishing
- Aquaculture
- Tourism
- Apiculture
- Other coastal enterprises (e.g., mangrove products, fireflies watching)

Livelihood relationships are shaped by access, resource-use practices and governance







Thailand: connecting livelihoods and coastal stewardship







Nai Nang Apiculture Group in Krabi province

- ✓ Community-based ecological mangrove restoration project that connected conservation objectives with local economic activities.
- ✓ Apiculture provides an alternative source of income linked to healthy mangrove ecosystems.
- ✓ Group's involvement in seagrass restoration highlighted their local knowledge in looking beyond individual habitats and recognizing the wider coastal ecosystem.

Governance highlights

- ❖ **Local leadership** strengthened community co-management.
- ❖ Giving local groups a **formal role** in guiding, monitoring, and benefit-sharing in livelihood diversification schemes.

Indonesia: community innovation and mangrove stewardship

Mempawah Mangrove Conservation group in West Kalimantan

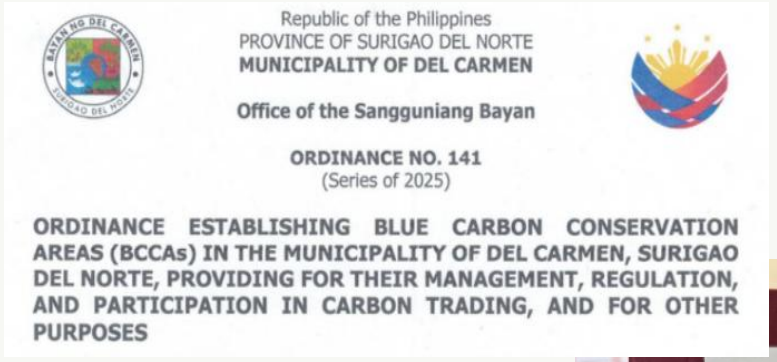
- ✓ Community-based initiative to restore mangrove forests, collaborating with local volunteers, civil society groups, government agencies, and private entities
- ✓ The center serves as a learning space for mangrove education and ecotourism.
- ✓ The "Organic Coastal Defense" method developed by the local community is patented, contributing to their cultural "identity."

Governance highlights

- ❖ **Recognizing locally developed** restoration methods and the knowledge underpinning them.
- ❖ Providing **long-term technical and institutional support** to help community-based approaches beyond the projects' timeline.



Philippines: mangrove blue carbon as local government agenda

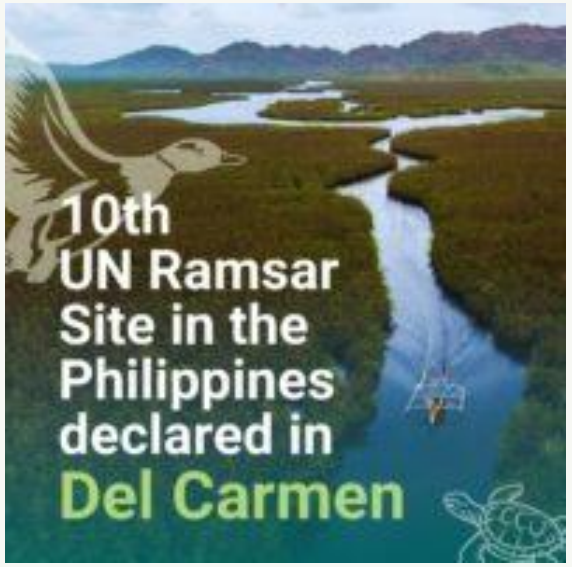


Republic of the Philippines
PROVINCE OF SURIGAO DEL NORTE
MUNICIPALITY OF DEL CARMEN

Office of the Sangguniang Bayan

ORDINANCE NO. 141
(Series of 2025)

ORDINANCE ESTABLISHING BLUE CARBON CONSERVATION AREAS (BCCAs) IN THE MUNICIPALITY OF DEL CARMEN, SURIGAO DEL NORTE, PROVIDING FOR THEIR MANAGEMENT, REGULATION, AND PARTICIPATION IN CARBON TRADING, AND FOR OTHER PURPOSES





Municipality Del Carmen, Surigao del Norte

- ✓ Turning mangrove cutters to mangrove stewards by providing alternative livelihood opportunities.
- ✓ Mangrove rehabilitation projects provided financial support to coastal communities.
- ✓ Recognizing multiple values of mangroves for the community.
- ✓ Led by a strong political leadership, collaboration among multiple sectors and actors paved the way for their mangrove research as a Ramsar site.
- ✓ Engagements with several international and regional climate and biodiversity dialogues, recognizing Del Carmen's "local" insights and practices

Governance highlights

- ❖ **Passing of the municipal ordinance** establishing blue carbon conservation areas.
- ❖ **Behavioural approach** helped mangrove illegal cutters to become champions in blue carbon and biodiversity agenda.

SYNTHESIS

Whose values count in mangrove governance?

MULTIPLE VALUES OF MANGROVE LANDSCAPES

BLUE CARBON

Climate mitigation

BIODIVERSITY

Species and habitats

LIVELIHOODS

Food, income and resources

CULTURE & LOCAL KNOWLEDGE

Identity, practices, lived experiences, and stewardship

BUT ARE THESE VALUES EQUALLY RECOGNIZED?

RECOGNIZED

In policies and priorities

MEASURED

In indicators and assessments

SUPPORTED

Through institutions and resources

Recognition varies across institutional and local contexts and there is no universal hierarchy of values.

SYNTHESIS

Governance connects ecological and social values



INSTITUTIONS & RULES

↓

ACCESS

Who can use or benefit?

PARTICIPATION

Who takes part in decisions?

RESPONSIBILITIES

Who carries obligations?

RESOURCES & PARTNERSHIPS

How are support and collaboration organized?

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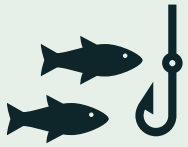
HOW VALUES ARE RECOGNIZED, NEGOTIATED AND ACTED UPON

Governance mediates the relationship between wider goals and local practices.

IMPLICATIONS

Three principles for moving beyond blue carbon

01



RECOGNIZE MULTIPLE VALUES

Consider carbon alongside biodiversity, livelihoods and cultural relationships.

02



RECOGNIZE LOCAL KNOWLEDGE & INSTITUTIONS

Communities are knowledge holders, stewards and participants in decision-making—not only project beneficiaries.

03



DESIGN GOVERNANCE FOR INTEGRATION

Connect climate, conservation and livelihood objectives across institutions and levels.

These are context-sensitive principles, not a universal recipe; trade-offs must remain visible and be negotiated fairly.

CONCLUSION

From blue carbon-centered approaches to integrated mangrove governance

BLUE CARBON-CENTERED APPROACHES

Carbon storage ● Emissions reduction ● Climate mitigation ● Carbon market

↓

EXPANDING THE FRAMEWORK

CLIMATE

BIODIVERSITY

LIVELIHOODS

BIOCULTURAL DIVERSITY

↓

INTEGRATED MANGROVE GOVERNANCE

Locally grounded • Inclusive • Context-sensitive

Not abandoning the "blue carbon" but situating it within broader social–ecological relationships.



CLOSING

What do we miss when we look at mangroves only through a *specific value*?

The future of mangrove conservation should not be about choosing between blue carbon, biodiversity, and livelihoods. It should be about designing **governance systems capable of recognizing their multiple values and relationships with the communities**.

THANK YOU

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