14.5.4. Sharing Responsibility for Coastal Ecosystems

Introduction

Coastal ecosystems cross administrative and institutional boundaries, making effective stewardship dependent on cooperation among universities, local governments, protected-area authorities, conservation organizations, and communities. Partnerships can combine scientific methods, practical implementation, and local knowledge when conservation objectives are clearly understood and responsibilities documented.

During Academic Year 2024–2025, Davao Oriental State University (DOrSU) formalized a partnership with the Municipality of Governor Generoso for a proposed marine biodiversity baseline in Tagabebe, supported dialogue with the Pujada Bay Protected Landscape and Seascape Special PAMB, and shared experience from community-based mangrove rehabilitation through research publication. Earlier fisheries research on Balete Bay provides context for including resource users in management discussions.

The evidence describes agreements, meetings, publications, and the roles of collaborators. It does not treat an assessment agreement as a completed baseline, a proposed reef expansion as an implemented deployment, or a published rehabilitation account as evidence of new planting totals during the reporting period.

Helping a Coastal Municipality Establish Its Starting Point

Before a conservation area can be managed well, its living resources must be understood. On September 11, 2024, DOrSU and the Municipality of Governor Generoso signed an agreement for a baseline marine biodiversity assessment in Barangay Tagabebe. Project Leader Amy G. Ponce leads the university contribution, with funding from the municipal government.

The planned assessment covers fish, corals, and seagrasses in a proposed Local Conservation Area. The agreement creates a concrete channel for local government to obtain scientific support for conservation and fisheries planning.

A baseline can help a municipality describe the resources it intends to protect and establish reference information for later comparisons. Covering fish, corals, and seagrasses recognises the different components of the proposed conservation area. The agreement assigns a role to university expertise within a locally funded initiative; completion of the survey, its findings, and adoption of management measures would require follow-up documentation (DOrSU PIO, 2024).



Figure 1. DOrSU and Governor Generoso representatives sign the Tagabebe marine biodiversity assessment agreement, September 11, 2024. Photo credit: DOrSU–Public Information Office.

References

Davao Oriental State University, Public Information Office. (2024, September 11). DOrSU, LGU Governor Generoso Partner for Marine Biodiversity Assessment in Barangay Tagabebe. Retrieved from https://dorsu.edu.ph/dorsu-lgu-governor-generoso-partner-for-marine-biodiversity-assessment-in-barangay-tagabebe/

Taking Reef Evidence to the People Who Manage the Bay

At DOrSU's Boardroom on July 23, 2025, the Pujada Bay Protected Landscape and Seascape Special Protected Area Management Board received reef-monitoring findings from rrreefs co-founder Hanna Kuhfuss. The discussion linked ecological results with proposed expansion sites and community engagement.

Participants also visited the university's 3D Clay Bricks Fabrication Facility and RIC-XI. This exchange gave protected-area managers a direct view of the science, production capacity, and partnerships behind the restoration effort.

Presenting observations in a management forum makes them available to the agencies and stakeholders responsible for a protected seascape. Discussion of community engagement is equally relevant because restoration takes place in waters used and valued by local residents. The meeting therefore strengthened the connection between research and governance, while the proposed expansion sites should continue to be described as proposals until deployment is documented (DOrSU PIO, 2025; Oblianda, 2025).



Figure 2. Presentation of artificial reef monitoring results during the PBPLS Special PAMB meeting at DOrSU, July 23, 2025. Photo credit: DOrSU–Public Information Office.

References

Davao Oriental State University, Public Information Office. (2025, July 23). Marine Life Booms in Pujada Bay After Artificial Reef Installation. Retrieved from https://dorsu.edu.ph/marine-life-booms-in-pujada-bay-after-artificial-reef-installation/

Oblianda, A. S. (2025, July 29). The promise of eco-engineered reefs in coral restorations. Philippine Information Agency. Retrieved from https://pia.gov.ph/features/the-promise-of-eco-engineered-reefs-in-coral-restorations/

Community Based Mangrove Rehabilitation and Enhancement

Mangrove restoration depends on the people who care for the coast. A May 2025 publication documents DOrSU's RIC-XI collaboration with Mama Earth Foundation, DENR, BFAR, the City of Mati, and local communities on mangrove rehabilitation and enhancement.

The account brings ecological work and community participation into a shared record that can inform future rehabilitation. Its earlier planting totals describe the project's history and are not counted as new AY 2024–2025 plantings. The publication's contribution during this reporting period is the documentation and sharing of that experience.

Documenting the collaboration makes the roles of the university, agencies, conservation partners, and community participants more visible. It also allows experience from an established rehabilitation programme to inform discussion of future activities. For impact reporting, the distinction between historical implementation and knowledge shared during the academic year is important: publication supports learning, while new restoration outputs require dated field records (Manooy-Vicente et al., 2025; Jimenez, 2025).

References

Manooy-Vicente, N. J., Jimenez, L. A., Seniel, J. G. P., Centro, J. A., & Kronberg, U. (2025). A community-based mangrove rehabilitation and enhancement in the City of Mati, Davao Oriental, Philippines – regenerating the coast of Pujada Bay. EPRA International Journal of Socio-Economic and Environmental Outlook, 12(5), 16–24. https://doi.org/10.36713/epra21487

Jimenez, L. A., Seniel, J. P., Centro, J. A., Kronberg, U. Regenerating Coast of Pujada Bay: A Community-Based Mangrove Rehabilitation and Enhancement in the City of Mati, Davao Oriental, Philippines. World Aquaculture Society, Aquaculture 2025 Conference, March 2025. Retrieved from https://www.was.org/Meeting/Program/PaperDetail/165612

A Research Basis for Including Resource Users

Earlier research on the wild lobster fry fishery in Balete Bay examined catches and implications for fisheries management. It provides a local example of why understanding resource use and fishers' experience matters alongside habitat information.

That background supports a collaborative approach in which scientific assessments and local government authority are informed by the people who use aquatic resources. The study predates the reporting year and should not be interpreted as documentation of a new AY consultation or a current stock assessment for Pujada Bay (Macusi et al., 2019).

References

Macusi, E. D., Laya-og, M. E., & Abreo, N. A. S. (2019). Wild lobster (Panulirus ornatus) fry fishery in Balete Bay, Davao Oriental: Catch trends and implications to fisheries management. Ocean & Coastal Management, 168, 340–349. https://doi.org/10.1016/j.ocecoaman.2018.11.010

Scopus record in supplied export. Retrieved from https://www.scopus.com/pages/publications/85058150654?origin=resultslist

Community Adaptation as Shared Stewardship

Stewardship in practice includes helping fishing communities withstand the hazards that threaten the resources they depend on. A January 2025 study co-authored by DOrSU researchers documented how small-scale fishers in Baganga, Davao Oriental, adapted after super typhoon Pablo: semi-structured interviews with 120 fishers and focus groups in four fishing villages recorded widespread disruption of catch and operations, psychological and economic distress, and adaptation strategies that included mangrove planting, construction of a seawall with wave breakers, cash-for-work programs, and tourism as an alternative livelihood. The study also identified gaps that remain: limited community knowledge of climate impacts, unclear local management goals for fisheries conservation, and continued use of illegal fishing gear.

For shared responsibility, the findings point to where university partners can add the most value: strengthening fisher cooperatives, delivering training and seminars that build hazard awareness, and supporting the infrastructure and market access that fishers themselves identify as constraints. The study documents community adaptation experience and research-based recommendations; it does not report that the recommended measures have been implemented in the study communities.

Macusi, E. D., Sabino, L. L., Pislan, H. T., & Macusi, E. S. (2025). Impacts of extreme climate change event on small-scale fishers and their adaptation in Baganga, Davao Oriental. World, 6(1), 18.

Conclusion

Indicator 14.5.4 documents DOrSU's involvement in the institutional relationships needed for coordinated coastal stewardship. The Tagabebe marine biodiversity assessment agreement connects university expertise with local government conservation objectives, while the PBPLS Special PAMB meeting makes restoration-monitoring results available to protected-area decision-makers.

The mangrove rehabilitation publication and the earlier Balete Bay lobster-fishery study add perspectives on community partnership and resource use. These publications help explain why conservation arrangements should account for people and institutions as well as habitats and species.

The strongest documented outcome is a platform for shared responsibility and evidence exchange. Further reporting is needed to establish completed surveys, adopted management decisions, implemented expansion, or measurable ecosystem benefits from the partnerships described.