

## NATURE-BASED SOLUTIONS FOR ADAPTATION

# BRIEF SERIES

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As countries dive into the blue economy, the challenge is not just unlocking ocean wealth – but ensuring women and underrepresented groups lead and benefit. Inclusive blue economy approaches, grounded in women’s empowerment, Nature-based Solutions for adaptation, and community-driven governance, are key to a bluer, fairer, and more sustainable future.

## EMPOWERING WOMEN IN COASTAL BLUE INITIATIVES: Beyond Participation to Leadership

The blue economy is emerging as one of the most promising frontiers for sustainable development, yet its success depends on who gets to fully participate, influence and benefit. Across coastal and marine communities, women and underrepresented groups are proving to be catalysts for innovation, resilience, and stewardship of natural resources. When their leadership, economic potential, and local knowledge are fully recognized, blue economies become more inclusive, equitable, and sustainable. This brief explores current trends, inspiring case studies, and practical lessons from around the world, offering insights and actions to ensure the blue economy truly works for people, in all their diverse realities, and the planet alike.



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## WHAT IS THE BLUE ECONOMY? WHY IS IT IMPORTANT?

Originating from the Rio+20 Conference, the regenerative blue economy represents a dynamic frontier for sustainable development – promoting the responsible use of ocean and coastal resources for economic growth, improved livelihoods, and ecosystem health ([World Bank 2017](#)). Though there is no single definition of the “regenerative blue economy”, it commonly encompasses activities such as small-scale fisheries and aquaculture, renewable energy, maritime transport (also known as a “brown blue economy”), waste management, coastal ecotourism, and climate change mitigation and adaptation ([IUCN 2024](#)). Realizing the full potential of the regenerative blue economy to contribute to sustainable development requires more than investment in markets or infrastructure; it requires inclusive governance and social equity.

Around the world, countries are reimagining their relationship with the ocean by integrating Nature-based Solutions (NbS) for adaptation into blue economy strategies. Healthy mangroves, coral reefs, and seagrasses act as natural buffers against climate impacts, protecting coastlines, storing carbon, and sustaining livelihoods. Investing in the restoration and sustainable management of these key ecosystems reduces vulnerability while generating lasting economic and social returns. These ecosystem-based approaches contrast with conventional coastal protection methods, highlighting important trade-offs between immediate risk reduction, long-term resilience, and social and ecological outcomes.

The sustainability of these efforts ultimately depends on who fully participates, influences decisions, and benefits from such activities. Too often, women and other underrepresented groups remain excluded from decision-making and are invisibilized, underpaid, unsafe, or confined to lower-profit, lower value-added segments of blue economy value chains, despite being key stewards of marine and coastal ecosystems across pre- and post-harvest activities ([IUCN 2024](#)). When their leadership, entrepreneurship, and knowledge are fully recognized, blue economies become more resilient, equitable, and transformative.

An inclusive blue economy thus goes beyond environmental sustainability – it is a pathway toward justice, opportunity, and shared prosperity. Grounded in gender equity and equality, community leadership, and nature-based adaptation, an inclusive blue economy recognizes that healthy oceans and thriving communities are inseparable. The sections that follow explore stories of women and communities leading this transformation, and the evidence shaping a more equitable, “blue” future.

### Supporting frameworks for gender-responsive NbS in the blue economy

- 1982 United Nations Convention on the Law of the Sea ([UNCLOS](#))
- UN Framework Convention on Climate Change (UNFCCC) & Paris Agreement
- UN Convention on Biological Diversity ([CBD](#))
- UAE Framework for Global Climate Resilience (UAE-FGCR), foundation for Global Goal on Adaptation (GGA)

Type of intervention	Advantages	Disadvantages
<p>Conventional methods, such as:</p> <ul style="list-style-type: none"> <li>• Sea walls, dikes, levees</li> <li>• Elevating structures &amp; homes</li> <li>• Beach nourishment</li> </ul>	<ul style="list-style-type: none"> <li>• Provides immediate protection and a sense of security</li> <li>• Well-understood engineering approaches with predictable performance</li> <li>• Can protect critical infrastructure in high-risk areas</li> </ul>	<ul style="list-style-type: none"> <li>• Potential for ecological damage to coastal and marine ecosystems</li> <li>• Disrupts sediment transport, increasing erosion and flood risk in downstream areas</li> <li>• High capital and maintenance costs, often with temporary or diminishing benefits</li> <li>• Can lock communities into rigid, maladaptive pathways</li> </ul>
<p>NbS for adaptation &amp; resilience, such as:</p> <ul style="list-style-type: none"> <li>• Mangrove restoration</li> <li>• Oyster reef restoration</li> <li>• Living shorelines</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated adaptation outcomes (e.g. sediment management) reduce climate risks while delivering co-benefits (biodiversity, livelihoods, carbon sequestration)</li> <li>• Cost-effective over the long term with lower maintenance needs (context-specific)</li> <li>• Enhances ecosystem health and adaptive capacity of communities</li> <li>• Flexible and scalable across landscapes and seascapes</li> </ul>	<ul style="list-style-type: none"> <li>• Longer time-scale to reach full adaptation benefits</li> <li>• May require support of grey infrastructure to increase likelihood of resilience to immediate, extreme weather events</li> <li>• Requires sustained governance, land tenure security, and community engagement</li> <li>• Effectiveness can be context-specific and harder to attribute</li> </ul>

**Table 1: Coastal NbS for adaptation compared to other methods**

**WAVES OF CHANGE: RISING TIDES, RISING VOICES**

Across coastal and marine communities, women are redefining what leadership in the blue economy looks like. Once seen primarily as resource users or beneficiaries, they are now emerging as entrepreneurs, innovators, and stewards of change. Their leadership not only strengthens the sustainability of marine value chains – it transforms the social fabric of

communities and ensures that blue economy growth is inclusive and lasting.

Evidence from the field shows that empowering women in blue economy initiatives delivers tangible results for both people and nature. A dual-track approach – combining gender-responsive livelihood training with leadership opportunities in NbS – is helping women gain skills, confidence, and visibility.

Programs like Conservation and Sustainable Management of Coastal and Marine Ecosystems ([COSME](#))’s gender justice journey and Feminist Climate Action in West Africa’s ([ACF-AO](#)) community action planning have shown that when women lead NbS initiatives, they help design more equitable, resilient, and locally grounded solutions. At the household level, family action plans ensure that benefits are shared and sustained, reinforcing long-term change.



Similar shifts are observed in coastal Mozambique through the Regenerative Seascapes for People, Climate and Nature ([ReSea](#)) project, where women engaged in fisheries and coastal livelihoods have been supported to strengthen their leadership and participation in community-based marine governance. Through mentorship, awareness-raising, and financial literacy support, women have transitioned from largely passive roles to active and influential participation within Community Fisheries Councils, contributing to more inclusive decision-making, strengthened stewardship of marine resources and equitable benefit sharing. From Africa to the Caribbean, women-led initiatives are reshaping blue value

chains. The Belize Women’s Seaweed Farmers Association ([BWSFA](#)), for example, demonstrates how small grants and seed funding can catalyze women’s participation in high-value sectors like sustainable aquaculture. Under the Climate Adaptation and Protected Areas ([CAPA](#)) Initiative, the BWSFA received training in strategic planning, leadership development and NbS for adaptation. Through the CAPA Innovation Fund, they received a small grant which enabled them to establish a seaweed seed bank and develop a seaweed farm tour. In West Africa, women trained through ACF-AO programs have entered traditionally male-dominated activities, such as beekeeping, oyster farming, and local governance, proving that inclusive support systems can unlock new livelihoods and leadership pathways. These stories highlight how targeted investments, combined with community-driven governance, can dismantle long-standing barriers and foster systemic change.

Inclusive blue economies are most effective when grounded in local realities. Gender-responsive approaches take time and care – working within socio-cultural norms, engaging men and



households, and ensuring that women’s participation is meaningful and safe. In the Inhassoro district of Mozambique, for example, the ReSea project, led by feminist partner Muleide, provides mentorship, awareness-raising sessions, and financial literacy training to strengthen women’s confidence, participation, and resilience. Where previously women in community fisheries councils (CCP) had faced gender-based discrimination and exclusion, women now attend CCP sessions regularly, take active part in decision-making, and inspire their peers, including through mentorship of other women. Their engagement has also contributed to improved household financial planning, savings for closed fishing seasons, and increased recognition of women’s roles. Early evidence points to a shift in attitudes among men in the community and reductions in gender-based violence as women’s contributions gain respect.

Approaches such as this and the CAPA Innovation Fund exemplify the “champion approach,” where women leaders and influencers drive peer learning and inspire collective action. In coastal areas where women help manage UNESCO Biosphere Reserves, such as under the

ACF-AO and ReSea projects, their participation strengthens ecosystem stewardship and governance outcomes.

Sustaining these gains requires supportive policies and institutional frameworks. Efforts in Kenya through ReSea and in Belize through CAPA demonstrate how inclusive governance models and gender-responsive management plans embed equity into decision-making. When women’s voices are formally included in resource management and policy processes, the benefits extend beyond gender equality, improving accountability, resilience, and ecological outcomes. Experiences from initiatives such as ReSea also highlight the importance of embedding these principles within LMMA governance and management plans, including the formal recognition of women’s roles across fisheries value chains and monitoring systems that assess leadership and influence, not only attendance. ReSea and other NAbSA-supported projects lead the way in supporting local authorities and community committees in applying inclusive governance principles, including rotation and quotas in leadership rules, safe spaces, and codes of conduct.



## CHARTING THE COURSE: EVIDENCE, INSIGHTS AND THE ROAD AHEAD

Building an inclusive and regenerative blue economy depends on evidence – data that captures not only who participates, but how, and with what results. By linking and equally emphasizing quantitative data and qualitative data, such as local stories and lived experiences, practitioners gain a clearer picture of how women’s empowerment and inclusive governance can drive sustainable change.

Women’s contributions have been historically underestimated, unmonitored, or even ignored ([IUCN 2024](#)). Governance systems may mandate women’s presence, but they too often exclude women’s effective and active participation in decision-making processes. Monitoring, Evaluation & Learning (MEL) systems demonstrate similar challenges, where indicators or monitoring activities do not accurately measure the involvement or participation of women. Therefore, governance and M&E systems must go beyond simply counting participants in order to capture more complex dynamics: agency, leadership, and influence within governance spaces. Evidence from ACF-AO and related projects suggests that when enabling environments exist – through supportive policy, mentorship, and targeted funding – women move from peripheral roles to positions of authority and innovation.

Evidence from community-based initiatives highlights the importance of monitoring “leadership quality”, not only participation, in order to assess whether governance environments are genuinely receptive to women’s leadership.

### How to measure women’s involvement in blue economies and NbS

- Number of women members in entrepreneur groups across landscapes
- Number of diverse value chains in the regenerative blue economy, such as seaweed farming and commercialization, crab fattening, sea cucumber farming, mangrove honey, ecotourism (Seahorse Breeding, Community Tourism, etc.), marine litter, fish processing and marketing, (e.g. sardine, octopus, etc.)
- Proportion of women in leadership roles in coastal resource management bodies ([Blue Action Fund, 2025](#))
- Women’s level of knowledge of actions taken or level of access to information for decision-making
- Proportion of time spent on paid versus unpaid blue economy activities (activities depend on the local context, but include post-harvest and processing)
- Number or proportion of women and men with access to or ownership of fishing grounds, fishing and fish processing equipment ([Blue Action Fund, 2025](#))

In projects such as ReSea, this has included the use of a participation and leadership tracking framework that distinguishes between different levels of engagement – being informed, consulted, actively participating, and holding leadership roles – as assessed through the perceptions and lived experiences of women and other marginalized groups themselves. Tracking women’s roles in executive positions within fisheries councils, their influence on decisions, and their perceived legitimacy among peers provides deeper insight into how receptive governance systems translate enabling environments into meaningful leadership and, ultimately, into more resilient and sustainable governance outcomes.

Initiatives under CAPA in Belize further showcase the value of moving beyond participation metrics to evaluate the leadership, agency, and influence of women within governance spaces. A peer learning exchange convened women leaders from the newly established National Women in Fisheries Association (NWIFA) and another long-standing women-led conservation group, along with representatives from the Belize Fisheries Department (BFD) and the Caribbean Regional Fisheries Mechanism (CRFM). The initiative emphasized peer mentorship, supported NWIFA members in framing practical, short-term strategic actions to strengthen the association's capacity and role in advancing women's participation in fisheries management.

Pre- and post-event perception-based assessments demonstrated measurable increases in participants' confidence to articulate a vision for their associations, mentor other women, and explain the importance of women's agency in their sectors. Qualitative feedback further underscored the importance of safe, enabling spaces where women can reflect on leadership roles, navigate male-dominated environments, and translate collective learning into practical governance action.

This reinforces the importance of monitoring leadership quality and perceived agency as critical indicators of whether governance environments are genuinely receptive to women's leadership.

Women's voices are also crucially minimized or absent in decision-making processes and policy-making. Their contributions and decision-making capacities in ocean and coastal contexts can allow for the emergence of new conservation strategies, incorporating women's roles, priorities and knowledge across coastal & marine sectors and practicing gender-responsive natural resource management and decision-making ([IUCN 2024](#)). Their active participation is essential for more equitable benefit sharing of marine and coastal resources while improving livelihoods and sustainable food security ([IUCN 2024](#)).

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