

Knowledge & Learning Brief

Lessons From the Field: From Local Innovation to Scaled Investment

This knowledge brief aims to identify what is required from policymakers, financial institutions, philanthropies, investors, and intermediaries to move from local pilots to replicable and scalable investment in ocean and coastal resilience. It is based on 12 lessons learned from ORRAA's support for over 50 finance, insurance and policy projects across 30 countries over the past four years.

ORRAA's experience shows that moving from local innovation to scaled impact requires more than capital alone: it depends on locally led design, enabling policies, fit-for-purpose financial instruments, risk-sharing and insurance tools, stronger market infrastructure, and long-term support that helps projects move beyond pilot stage. It also requires recognising that different solutions, sectors, and geographies need different pathways to scale, and that not all resilience outcomes will follow a linear path to commercial investment.

Introduction

The Ocean is the world's largest natural asset – valued at \$24 trillion – yet it receives less than one per cent of global climate finance. Climate change, pollution, and biodiversity loss are eroding the coastal ecosystems upon which three billion people depend for food and livelihoods. Small Island Developing States (SIDS) and coastal Least Developed Countries (LDCs) sit at the sharpest edge of these risks, facing sea-level rise, intensifying storms, and deepening debt burdens, while the finance they need remains out of reach.

This chronic underinvestment persists even though regenerative and sustainable ocean investments are among the most cost-effective forms of climate action, offering an estimated 4-10x cost savings over grey infrastructure and delivering multiple social, environmental, and economic benefits. There is, therefore, an urgent need to demonstrate the compelling business and financial case for ocean-positive investments. In ***Making Waves in the Regenerative & Sustainable Ocean Economy: Transformative Ocean Investment Opportunities***, ORRAA, the World Economic Forum, Builders Vision and Katapult Ocean provide important evidence of the diversity, maturity, and bankability of investment opportunities within the regenerative and sustainable blue economy.

This next decade is decisive for the Ocean. Climate impacts are intensifying, demand for investable solutions is rising, and the window for preventing irreversible loss of coastal and ocean ecosystems is closing. At the same time, locally led solutions are emerging across the Global South, including community-driven conservation and adaptation, reef and mangrove restoration, sustainable fisheries, and blue finance innovations. These local initiatives are proving what works on the ground. Yet too many remain trapped at the pilot scale due to a range of challenges, including gaps and fragmentation in the ocean finance landscape, weak or misaligned policy, mandates and incentives, access and capacity challenges, and underdeveloped metrics and data for ocean finance investments. This is especially true for SIDS and coastal LDCs.

ORRAA exists to correct this imbalance. As a mission-driven, multi-sector alliance with no balance sheet of its own, ORRAA bridges the persistent gap between innovation on the ground and the capital markets capable of replicating and scaling solutions. ORRAA's approach focuses on growing an investable pipeline, developing fit-for-purpose finance and insurance instruments, and embedding ocean resilience into mainstream finance and policy decision-making.

Why is this important?

Replicating and scaling locally proven ocean finance and insurance solutions is essential for delivering climate adaptation, biodiversity regeneration, and resilient livelihoods. A healthy ocean is a stabilising force in an increasingly volatile world. It reduces climate, economic, and geopolitical risks while unlocking trillion-dollar opportunities. Without scale, ocean and coastal solutions risk remaining isolated pilots, unable to meaningfully shift risk exposure for the hundreds of millions of people living on the frontlines of the climate emergency or to protect the ecosystems that underpin global economic stability.

The challenge is not a lack of capital, but of equitable access and fit-for-purpose financing pathways connecting local solutions to opportunities for replication and scale.

ORRAA's experience shows that replicating and scaling efforts to build ocean and coastal resilience through finance and insurance products depends on a systemic approach.

It must work from the ground-up, and from top-down.

It also requires enabling policies and catalytic capital that shortens the distance between locally led solutions and forms of finance needed to replicate and scale them, including return-seeking investments.

The coming decade offers a narrowing window for action. Translating global commitments under the Paris Agreement, the Global Biodiversity Framework, and the High Seas Treaty (BBNJ Agreement) into investable opportunities, and doing so at pace, requires coordination across governments, investors, and development partners.

With declining official development assistance (ODA) and growing competition for concessional and philanthropic capital, how finance is used matters as much as how much is available. The priority must now be to shift from experimental pilots to the replication and scaling of proven models, aligned with national priorities and through fit-for-purpose finance.

Recommendations: Doubling-Down and Scaling-Up

Every sector has a role to play:

Asset Owners, Asset Managers, Private Investors, Banks, and Insurers

- **Integrate ocean risks and opportunities into core strategies**, including investment strategies, underwriting, and portfolio management, with a focus on long-term value.
- **Develop risk transfer and insurance solutions** that improve resilience, reduce protection gaps, and enhance the bankability of regenerative and sustainable blue economy sectors, including supporting blended finance structures, expanding the use of parametric insurance, and strengthening the assessment and management of climate- and nature-related risks.
- **Engage as early as possible in the investment lifecycle** working with intermediaries, conservation/science partners, and project developers to help shape commercially viable and investment-ready opportunities in emerging sectors.

Governments

- **Integrate ocean and coastal resilience into national planning frameworks**, including development plans, Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), and budgetary frameworks, to provide clear investment signals and policy clarity needed to shape pipeline development.
- **Strengthen enabling policy environments** through, for example, marine spatial planning, fiscal incentives, and regulatory clarity that reduce uncertainty and transaction costs and improve the risk-return profiles.
- **Increase cross-sector coordination** so environmental, economic, and business development strategies reinforce each other and align with government-identified priorities and locally led delivery.
- **Treat ocean ecosystems as sovereign assets** and incorporate valuations of marine assets and ecosystem services onto national accounting systems and balance sheets. Incorporate natural capital into public risk management policies and pricing.
- **Engage early with the finance and insurance sectors**, including development banks, investors, and insurers, to ensure public priorities are matched with the financing structures best suited to deliver them.

Donors and Development Partners

- **Provide predictable, long-term support** that nurtures institutional capacity and investor confidence rather than short-term project cycles.
- **Mobilise investment** by deploying grants, concessional finance, and other catalytic financial instruments strategically within blended finance structures that reduce risk, crowd in additional sources of capital, and support the development of bankable projects, particularly those in early and growth stages.
- **Prioritise locally led and proven solutions** over theoretical and external models. Prioritise funding towards replication and scaling what works.
- **Coordinate across donors** to reduce duplication and fragmentation in concessional resources.

Development Finance Institutions

- **Invest in project development** by supporting project preparation, technical assistance, and growth capital that help locally led solutions to grow from proof of concepts to scalable and replicable financing pathways.
- **Support portfolio approaches** that bundle and aggregate projects into investable portfolios that increase diversification, meet institutional investor requirements, and reduce transaction costs.
- **Strengthen local financial ecosystems and institutional capacity** by working with local financial institutions, intermediaries, and governments to improve investment readiness, sustainability expertise, and long-term implementation capacity.
- **Support market infrastructure** by investing in shared standards, metrics, and transparency tools that improve comparability, integrity, and investor confidence.
- **Deploy finance and de-risking mechanisms** (e.g. guarantees, first-loss capital, and blended finance) to mobilise private investment in high-risk or underserved markets, such as SIDS and coastal LDCs, while supporting long-term market development and enabling commercial capital to participate where viable.

Intermediaries

- **Bridge local innovation and global capital** by acting as trusted intermediaries between communities, governments, and investors and ensuring community-led solutions meet governance, reporting, and risk-return standards.
- **Enable coordination through shared infrastructure** (e.g. standards, data systems, metrics, and other tools) that improve transparency and reduce transaction costs.
- **Aggregate and structure investable opportunities** by bundling projects, supporting deal structuring, and facilitating matchmaking to reduce fragmentation and align with investor requirements.
- **Strengthen regional ecosystems** that foster peer learning, local capacity, and cross-country replication.

Philanthropy

- **Provide catalytic financing early**, providing flexible grant and blended capital where commercial investors cannot engage.
- **Increase tolerance for experimentation and early-stage investment** to surface high impact innovations and models with the recognition that unsuccessful pilots can generate valuable lessons that strengthen future investment approaches.
- **Invest in systems, not just projects**, by supporting capacity building, pipeline development, data systems, communications and literacy tools, and enabling infrastructure that supports long-term market development and investor confidence.
- **Fund replication of what works** by supporting expansion and scaling of successful models across geographies and sectors.

A Deeper Dive

ORRAA's Approach: Bridging the Distance from Beachfront to Boardroom

The Ocean Risk and Resilience Action Alliance (ORRAA) is the only multi-sector collaboration connecting the finance and insurance sectors, governments, multilateral organisations, civil society, and local partners, to pioneer finance and insurance products that incentivise investment into coastal and ocean resilience, and through Nature-based Solutions.

Our mission, by 2030, is to activate at least \$500 million of investment through finance and insurance products to build the resilience of 250 million climate vulnerable coastal people in the Global South. ORRAA is delivering system-wide change by growing an investable product pipeline and generating the transformative investment instruments, vehicles, and policies that contribute to a regenerative and sustainable blue economy and a vibrant ocean. These solutions enable coastal communities and the Ocean to adapt and thrive, creating greater economic, social, and cultural resilience.

Together with our **over 140 members**, ORRAA takes a beachfront to boardroom approach, connecting frontline actors to philanthropies, governments, multilateral organisations, banks, asset managers, insurers, and institutional investors to create a capital market for the Ocean that has high integrity and works for our common future.

Our work proceeds along three core pathways that work together to convert local proof of concepts into scalable, replicable investment opportunities.

- On the beachfront, our **Innovation Pipeline** provides early-stage funding (up to \$500,000) to locally led organisations in the Global South to turn early-stage ideas into structured, investment-ready finance and insurance products. These initiatives are designed to be replicable and scalable, seeding a pipeline of bankable propositions.
 - For example, ORRAA's partnership with **Coast 4C** shows how a combination of grant and investment finance can catalyse growth and accelerate investment readiness. In this case, grant funding played a critical role in enabling the development and testing of more complex, higher impact models that may not have been feasible through investment capital alone, demonstrating how blended finance approaches can support the emergence of scalable, bankable solutions.
- Our **Sea Change Impact Financing Facility (SCIFF)** was established to tackle the "missing middle", bridging the gap between grant funding and investment finance. From fast-tracking blue bond issuances to offering guarantees that de-risk emerging markets and sectors, to matchmaking and addressing financing for blue nature (30x30) initiatives, SCIFF's financial instruments and platforms are designed to build investor confidence and the critical market infrastructure for capital to flow at scale.
 - For example, **Nautilus**, the Blue Guarantee Company, is the first dedicated guarantee facility designed to de-risk investments in the regenerative and sustainable blue economy. It aims to deploy guarantees to crowd in private

investments with an expected leverage ratio of 1:5 and with at least 20 per cent of guarantee capacity allocated to SIDS and coastal LDCs.

- In the boardroom, the **#BackBlue Ocean Finance Commitment** mobilises major financial institutions (including Deutsche Bank, BNP Paribas, Standard Chartered, AXA, Mirova, Eurazeo, WTW, and Palladium) representing \$3.45 trillion in assets under management, to consider the Ocean when finance and insurance decisions are made.

In just over five years, ORRAA has demonstrated what is possible when catalytic capital, cross-sector convening, and financial innovation combine. ORRAA's \$26 million of direct investment in innovation grants and the SCIFF has mobilised \$140 million and incubated 29 finance and insurance products and 21 science, data, and policy tools - 14 of which have already reached the market, with none having failed. The leverage ratio from products in our innovation pipeline is 1:4, while for the SCIFF, it is 1:6. Our work has helped build the resilience of over 500,000 climate vulnerable coastal people, 45% of whom are women, and protected nearly 1.4 million hectares of coastal and ocean habitat.

The Gap between Local Solutions and Scaled Impact

Across the regenerative and sustainable blue economy, local innovators are developing viable models, from sustainable fisheries to blue carbon. Yet these remain fragmented, small, and disconnected from the financing pathways needed to replicate and scale them. While some models may ultimately attract blended or commercial investment, others will continue to rely on public, philanthropic, or concessional support due to the nature of the outcomes they generate. Investors, meanwhile, struggle to identify opportunities that meet requirements for scale, standardisation, and risk-adjusted returns.

This structural disconnect means promising initiatives often stall after pilot stage, while finance remains idle or flows to more established sectors. The problem is particularly acute in SIDS and coastal LDCs, where borrowing costs, limited access to finance, debt burdens, credit ratings, and climate risk amplify constraints. Bridging this divide requires coordinated investment pathways that link early-stage support, project preparation, de-risking mechanisms, and aggregation strategies, thereby translating local proof of concepts into scalable, investable opportunities. Doing so also requires financing approaches that reflect the realities and priorities of SIDS and other Big Ocean States. As ORRAA looks ahead, a key priority will be deepening financial actors' understanding of these contexts, where vulnerability, sovereign priorities, and the realities of small and climate-exposed economies demand financing approaches that are more tailored, equitable, and responsive to their context.

12 Lessons Learned from ORRAA's Experience

Drawing on its practical experience in supporting the development of finance and insurance products and financial mechanisms across diverse geographies, a consistent set of lessons has emerged regarding what is required to move from locally driven innovation to scalable and replicable pathways.

These insights reflect not only what works in practice, but also where targeted interventions can most effectively unlock capital at scale.

LESSON 1: Local ownership is essential

Solutions rooted in community ownership and national priorities are more equitable and durable. Country-driven approaches improve relevance, legitimacy, and long-term sustainability, particularly when they embed gender-responsive and inclusive design early on. They are also more effective when finance is channelled through locally owned structures and when communities and national actors shape decisions from the outset.

CI-Atabey Foundation is developing the Dominican Republic's first Blue Carbon Exchange mechanism to conserve and restore mangrove forests, aligning with government efforts to protect mangroves and bringing together key national and local stakeholders. By formalising a carbon credit system and pairing it with monitoring and community training, the initiative helps translate national priorities into a durable, investable framework that can extend beyond an initial funding cycle.

LESSON 2: Flexible and risk-tolerant capital unlocks innovation

Early-stage ocean finance solutions operate in a context where risks are high, returns are uncertain, and business models are still emerging. Patient, flexible, and risk-tolerant capital is essential to absorb early losses, test business models, and generate proof of viability before more traditional investors can engage.

ORRAA's early-stage grant support, followed by philanthropic capital from Builders Vision, enabled **West Africa Blue's blue carbon project** in Guinea to pilot its business model, generate initial data, and build the foundation for future validation and credit issuance, which would not have been possible under traditional return expectations. The project has completed pre-sales of carbon credits and is now preparing to launch its credit issuance in 2027.

LESSON 3: The 'missing middle' is the critical bottleneck

A persistent financing gap exists for projects that outgrow grant funding but remain too small or risky for commercial investment. These projects need tailored support. Nature and climate investments often demand long-term horizon and upfront capital, yet they are frequently exposed to shifting policies and fragmented public support. Addressing this bottleneck requires both catalytic finance and enabling policy frameworks that reduce uncertainty, improve the risk-return profile, and enable investors to commit for the long-term.

Several projects incubated under the **Ocean Resilience Innovation Challenge (ORIC)** reached operational proof but struggled to secure growth capital due to thin margins, perceived market risks, and long-term growth trajectories.

The SCIFF-supported instruments and mechanisms are designed to help address the financing and capacity constraints facing early-stage innovators and emerging sustainable ocean sectors by providing catalytical capital and targeted technical assistance to strengthen business models, improve risk-return profiles, and help projects move from pilot stage to investment readiness.

The SCIFF's **Outrigger Impact Fund** has agreed a repayable grant of \$250,000 to **INVERSA** which started as an ORIC project. **Blue Alliance** has graduated from ORRAA's product pipeline into being a SCIFF instrument. Both illustrate the potential for such projects to move along the financing continuum when the right support is in place.

LESSON 4: Proof of concept must evolve into replication

Fragmented and small-scale pilots rarely achieve scale on their own. Deliberate strategies and targeted support for replication and aggregation are needed at the critical inflection point where solutions are technically proven but not investment ready.

The **Mesoamerican Reef Fund (MAR Fund)** has worked to develop parametric insurance for coral reefs to counter the impacts of tropical cyclones that reach pre-agreed thresholds. Payouts are immediately distributed to support reef response actions. Initially it covered reef sites in four areas, it has since expanded to cover reef sites in 10 areas in Mexico, Belize, Guatemala, and Honduras.

It is in the process of further replication across other regions as well as ensuring lessons learned are shared as the community grows their portfolio of reef insurance products. This journey demonstrates how one idea can be replicated because the model is intentionally designed to pilot and scale.

LESSON 5: Capacity limits constrain pipeline growth and investor readiness

In many coastal contexts, particularly SIDS, limited institutional, technical, and financial capacity hinder bankability and pipeline development. Targeted investments in project preparation, financial structuring, governance, and data systems are, therefore, essential.

The SCIFF's **Outrigger Impact Fund** – the first impact fund focused on SMEs in SIDS – has a Technical Assistance Facility (OTAF) that provides early-stage support for feasibility assessment, proof-of-concept studies, and investment readiness. In parallel, it strengthens local capacity, supports smaller islands through the development of hub-and-spoke models, and generates insights to demonstrate the connection between blue economy development, resilience, and sustainability in SIDS.

LESSON 6: Different pathways are required for different types of capital

Public finance, philanthropy, and private investors operate under different mandates, risk parameters, and investment requirements, including factors such as impact, risk-return profiles, governance, transaction size, and implementation capacity. Similarly, different types of sectors and geographies require tailored approaches, reflecting variation in risks, revenue models, and institutional capacity. Effective scaling depends on matching projects with the right type of capital at the right stage, rather than assuming a one-size-fits-all pathway to investment.

ABALOBI's experience illustrates how small-scale fisheries intermediaries often start as community-based conservation efforts backed by NGOs and philanthropy. As they evolve into market-facing social enterprises, they need different types of capital at different stages, from early grants to more patient blended finance as revenue models mature. In other cases, such as many adaptation and loss and damage interventions, the appropriate endpoint may remain public, philanthropic, or concessional finance rather than commercial investment.

LESSON 7: Donor and investor coordination increases success

Public, philanthropic, and concessional finance are most impactful when strategically coordinated to surface and de-risk opportunities, maximise catalytic impact, and crowd in additional sources of capital.

Blue Alliance's **Blended Finance Facility for Marine Protected Areas (MPAs)** shows how layered capital can match risk and function. Non-recoverable grants, anchored by the Global Fund for Coral Reefs, cover technical assistance, start-up costs for its reef-positive businesses, and day-to-day MPA conservation activities until business dividends can gradually take over.

Recoverable grants from impact-first donors provide repayable start-up capital, returned only if a business performs well, and are ranked below the senior loan (i.e. subordinated), so they absorb risk first. A senior impact loan facility, anchored by BNP Paribas, finances capital and operating expenditures, offering patient capital with returns linked to environmental and social outcomes.

By placing grant and concessional capital at the riskiest stages, the structure addresses fragmented, insufficient, and short-term funding that typically constrains MPA management. Securing BNP Paribas as anchor lender in 2024 provided early proof of concept to crowd in private capital for ocean conservation.

LESSON 8: De-risking mechanisms build market confidence

Perceived and real risks continue to deter investment in ocean sectors. Risk-sharing and de-risking instruments such as guarantees, insurance, and blended finance build investor confidence and mobilise capital at scale by adjusting risk-return profiles needed to attract the private sector.

Nautilus, the Blue Guarantee Company, is the first guarantee facility focused on the regenerative and sustainable blue economy. It is designed to provide guarantees to enable local financial institutions to provide loans to coastal enterprises. This 'promise to pay' would reduce exposure to default risk, crowding in local finance and improving the overall risk-return profile.

LESSON 9: Insurance is a catalytic system enabler

In many ocean economy contexts, particularly SIDS and coastal LDCs, exposure to climate shocks, natural hazards, and market volatility can prevent otherwise viable projects from meeting investment risk-return requirements. Insurance and risk transfer mechanisms are central to managing volatility and addressing risks in ocean sectors. Embedding these early in project and finance design can significantly improve bankability, reduce downside risk, and enhance investor confidence.

Coastal ecosystems can be valued, financed, and insured as productive assets that reduce risk, protect livelihoods, and support sustainable growth. The development and launch of the **Coastal Risk Index** provides a detailed set of global flood maps, using hydrodynamic models, to understand current and future coastal flood risk and value the flood reduction benefits of natural habitats. These can be integrated into risk models, with the potential for insurers to develop new products with more accurate pricing and allow them to work with their clients to manage their risks more proactively.

LESSON 10: Market infrastructure and aggregation is essential to achieve scale

A lack of shared market infrastructure, including standardised frameworks, practical guidance, credible metrics, and data tools, constrains transparency, comparability, and investor confidence. Without common approaches to assessing integrity, impact, and performance, transaction costs remain high, due diligence is difficult to streamline, and capital allocation remains inefficient. At the same time, investable opportunities remain highly fragmented, while many project developers lack the support, visibility, and structuring capacity needed to meet investor expectations.

Aggregation and matchmaking platforms are a critical complement to this infrastructure: they can help address this disconnect by improving visibility of opportunities and connecting investors with credible pipelines. Without a stronger connective tissue between locally driven initiatives and capital markets, scaling ocean finance will continue to stall. ORRAA is working on addressing the market infrastructure gap through multiple avenues.

The **Octopus Platform** is a first-of-a-kind high-tech platform being developed by ORRAA with support from AXA, Salesforce, and 2050, matching regenerative and sustainable blue economy projects to investors and market intelligence. It is designed to aggregate investment opportunities, curate AI-driven investment matchmaking and project screening, enhance transparency with impact verification tools, and facilitate investor peer-learning and capital mobilisation strategies to scale blue finance participation.

The **Ocean Positive Metrics** is working to establish a scientifically credible, practical, and standardised set of marine ecosystem metrics for the regenerative and sustainable blue economy. These are being built with the World Economic Forum, Nature Positive Initiative and the Oceanographic Institute of Monaco.

The **High-Quality Blue Carbon Principles and Guidance** establishes a shared understanding of integrity and quality while improving transparency and facilitating effective collaboration between project developers, investors, and other stakeholders. It has been built in partnership with Conservation International, The Nature Conservancy, the World Economic Forum, and Salesforce, and in consultation with numerous ORRAA members.

LESSON 11: Strong policy signals and regulatory frameworks unlock investment

Short-term, weak, or inconsistent policy and regulatory frameworks undermine investor confidence and raise the cost of capital, thereby limiting scalability of ocean solutions. Clear, integrated, and long-term policy signals (such as national blue economy strategies, regulatory and fiscal incentives, and integration of ocean into fiscal, climate, and development plans) are essential to provide a stable investment environment, build investor confidence, and align conservation and resilience building with economic planning.

Blue carbon projects, such as **CI-Atabey Foundation's** work, have the added challenge of aligning with evolving regulatory frameworks and working with multiple institutions to help develop the mechanisms and processes needed for their products to reach the market. Strong adherence to international commitments, such as Kunming-Montreal Global Biodiversity Framework's 30x30 target, is also essential for mobilising and sustaining finance for effective marine protected area management and expansion.

LESSON 12: Long-term finance outperforms short-term cycles

Ocean resilience and regeneration require predictable, long-term finance aligned with ecological stewardship and the timescale required for ecosystem regeneration, rather than short-term funding cycles. Growth capital and multi-year support are essential for enduring impact.

Short-term grants for blue carbon restoration, such as **AFO's mangrove restoration work**, often struggle to deliver lasting impact without follow-on financing. These projects require sustained support for long-term maintenance and monitoring and typically need significant upfront time and resources before revenue mechanisms become viable and credits can be generated.

The opportunity is not simply to mobilise more ocean finance, but to ensure that finance is structured and deployed in ways that can replicate and scale solutions already proving their value on the ground. We have learned the lessons and are ready to apply them, doubling-down and scaling-up to turn the gap in the market into a market in the gap.

Key Resources

- [ORRAA's submission to the Standing Committee on Finance](#)
- [The MAR Fund Story: From Risk to Resilience: Reef-positive parametric insurance](#)
- [The Blue Alliance Story: An innovative vehicle reshaping marine protection](#)
- [The AFO Story: Youth-led seaweed revolution in East Africa](#)
- [Making Waves in the Regenerative and Sustainable Ocean Economy – Transformative Ocean Investment Opportunities](#)
- [High-Quality Blue Carbon Principles and Practitioners' Guide](#)
- [Ocean Investment Protocol](#)
- [Strategic Framework for Blended Finance by the UNDP and Convergence](#)
- [Asia-Pacific Climate Report 2025: Unlocking for Development by the Asian Development Bank](#)

Learn More About ORRAA [here](#).