



orraa

Ocean Risk and Resilience
Action Alliance

The ORRAA
Action Report
2021/22

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Foreword

Ocean Risk and Climate Risk equals Financial Risk

The new IPCC [Climate Change 2022: Impacts, Adaptation and Vulnerability](#)¹ report is unequivocal. Climate change is happening now with cascading and compounding effects. Viewed in tandem with the [IPCC's 2019 Special Report on the Ocean and Cryosphere in a Changing Climate](#),² it is clear that ocean heating, sea level rise, increasing levels of acidity, habitat degradation, overfishing and pollution are jeopardising the Ocean's health and adversely impacting the well-being of climate vulnerable coastal communities. They are also putting coastal and ocean-based investments and assets, including infrastructure at major risk.

Financing a climate resilient development pathway that builds the social, economic, and cultural durability of these communities and protects vital infrastructure is essential.

ORRAA was created to tackle these very issues, to convene private sector finance, governments, and civil society to take on these challenges and develop a more resilient, solutions-focused investment model. By bringing together diverse actors with common interests, our work concentrates on investment that protects rather than exploits ocean and coastal natural capital, builds the resilience and adaptive capacity of coastal communities, reduces the risk of falling portfolio values and stranded assets, and achieves sustainable and long-term returns for those prepared to invest into this sector.

Climate finance invested into Nature-based Solutions (NbS) can mitigate many of the risks to people and the Ocean, reduce loss and damage, and provide economic and business opportunities, particularly for local communities.

The projects outlined in this report record our efforts over the past two years – since the inception of the Alliance – to take us on this investment and resilience-building journey. We hope and intend to nurture many of these to scale, driving ocean protection, harmonising biodiversity and climate positive outcomes, and building the resilience

1: IPCC Sixth Assessment Report, Climate Change 2022: Impacts, Adaptation and Vulnerability
2: Special Report on the Ocean and Cryosphere in a Changing Climate

and adaptive capacity of natural ecosystems and coastal communities.

Currently, less than 1% of climate finance is invested into marine and coastal natural capital. Scale and speed are critical to address the compounding impacts of the climate emergency and the biodiversity crisis. An urgent step-change in investment into this space is required. ORRAA intends to drive new initiatives to help secure the billions and trillions of dollars needed for investment into blue nature, deliver proof of concept products and projects with bankable returns, and build a new global ocean finance architecture at scale.

We will do this through growing support for the #BackBlue Ocean Finance Commitment, which encourages the finance sector to incorporate the Ocean into climate finance decisions, and by continuing to develop close collaborations with our members and partners. This is to develop and deploy more investable projects and products, assessing their feasibility, piloting them and driving more capital into coastal and marine nature. This includes the Ocean Resilience Innovation Challenge which surfaces locally led, innovative ideas.

The Ocean is everybody's business - every business has an interest and an imperative to act.

Please read on to learn more and contact us to become part of this new blue investment movement.

#BackBlue.

Karen Sack



Karen Sack
Executive Director
Ocean Risk and Resilience Action Alliance

ORRAA is grateful to the following organisations for their financial support

Introduction

The Ocean Risk and Resilience Action Alliance is a multi- sector collaboration committed to building resilience to ocean risk. Our focus is on driving investment into coastal and ocean natural capital through the development of innovative finance solutions that reduce vulnerability and build resilience in the most exposed regions and communities.

The United Nations has called for a transformative response by the finance and insurance sectors to reduce the exposure and vulnerability of coastal communities and ecosystems through the global mobilisation of private capital and risk reduction expertise.

ORRAA, along with our valued partners, is very much part of this response through the delivery of products and projects generously supported by our funders.

These range from a project to improve the tools to help insurers better assess the risk of vessels engaging in Illegal, Unreported, and Unregulated fishing, through to a programme in which the Mesoamerican Reef Fund with support from WTW are implementing an innovative risk financing programme to address the costs of response to reef damage in the wake of hurricanes and storms. Projects also include supporting a pilot led by Rare to give small-scale fishers in the Philippines and Indonesia access to insurance products, through to working through our Ocean Resilience Innovation Challenge with Tanzanian NGO Aqua-Farms Organization to enhance the resilience of coastal communities by establishing new sustainable sources of income from the rehabilitation of mangrove forests.

Protecting and regenerating natural capital, through projects like these and others detailed in this Action Report, is one of the critical components of disaster risk management and climate adaptation in countries that often lack the financial resources to fund relief, recovery, and post-disaster reconstruction efforts. This is integral to our mission to catalyse the investment of at least USD\$500 million into coastal and marine natural capital through the development and deployment of finance products that build the resilience of 250 million climate vulnerable coastal people, by 2030.

ORRAA is delivering on this mission through the three priority pathways that underpin our work:

Financial Innovation

Pioneering, surfacing, and incubating 50 innovative and scalable finance and insurance products to protect and regenerate valuable coastal and marine natural assets while delivering a return on investment by leveraging and influencing public and private capital

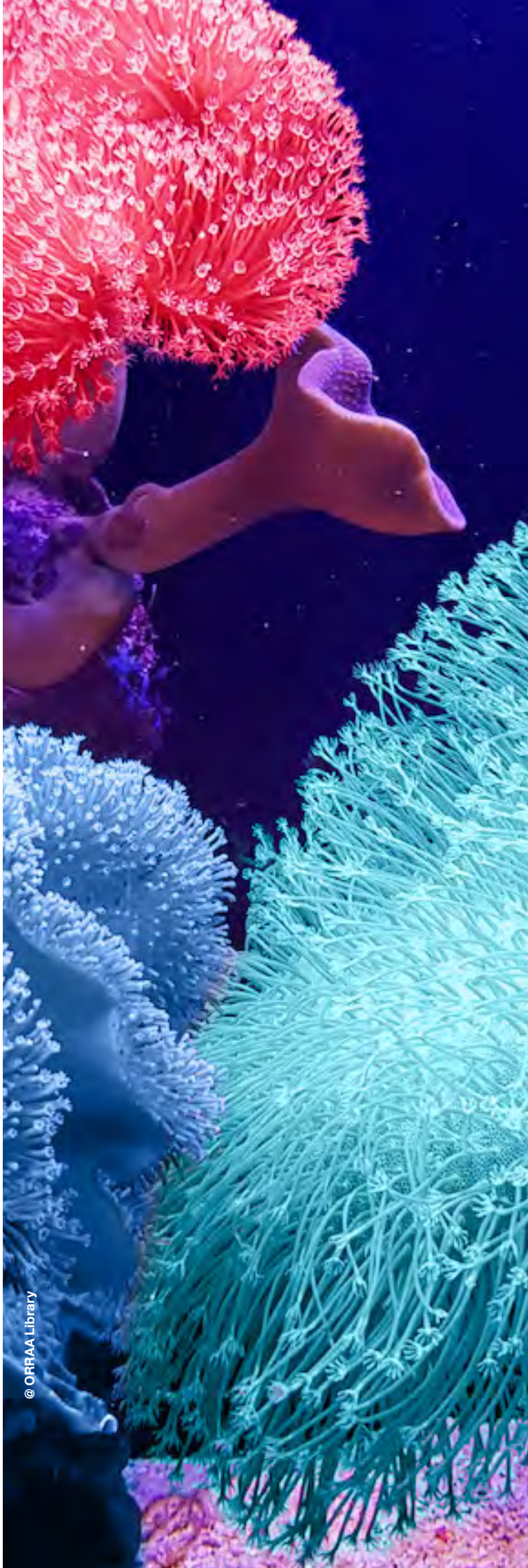
Science and Research

Accelerating research and modelling on ocean risk and resilience to inform financial innovation and policy action that reduces the impacts of climate and ocean change by developing strategies to better understand, analyse, predict, model, and manage ocean risk; and improving the design and implementation of gender-sensitive ocean resilience projects in key vulnerable regions

Policy and Governance

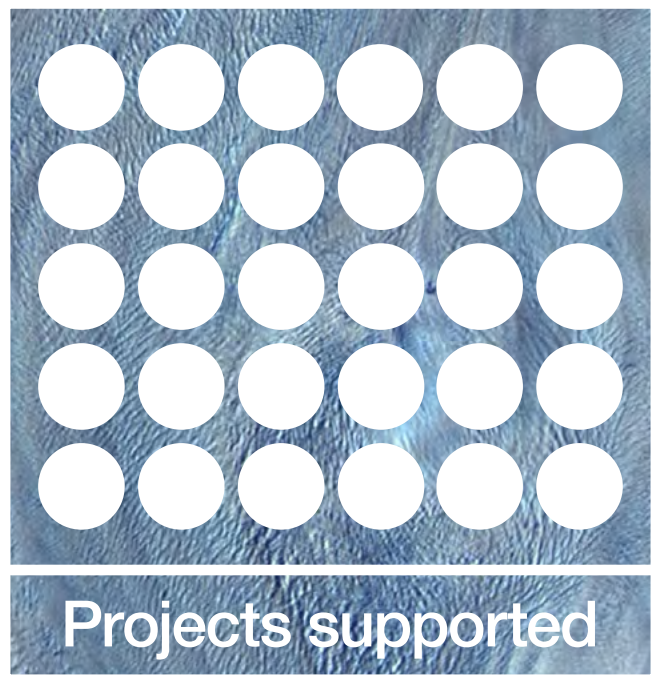
Informing, advancing, and driving public and private policy commitments and action that value nature, build coastal resilience, reduce ocean risk, and accelerate the delivery of the Sustainable Development Goals (SDGs), by acting as a connector and catalyst for cross-sector collaboration across the Global North and South; and advancing global action to address ocean risk and improve coastal resilience, with policymakers, finance leaders, and investors.

This Action Report shares exciting insights into ORRAA’s projects and engagement through 2021 and the end of the first quarter of 2022. It clearly demonstrates the tangible impacts these investments are already having, establishing positive proof-of-concept outcomes and showcasing how crucial it is to move both at pace and scale.



Our Action in Numbers

30



51
members

Including:
12 Financial Institutions
14 Governments
16 NGOs

4+6
Innovation
Challenge
Solutions

\$6m
Invested into
projects

Risk-Reduction Mechanisms

The Coastal Risk Index: Developing a Risk Assessment Tool for Vulnerable Coastal Ecosystems and Communities

Project Lead
AXA XL

Supporting Partners
IHE Delft, University of California Santa Cruz

Financial Support
AXA XL, Government of Canada, and United Kingdom's Blue Planet Fund

Location
Global

Overview

AXA XL, ORRAA’s global lead insurance partner, is working with IHE Delft and the University of California, Santa Cruz to develop a Coastal Risk Index (CRI) that integrates the protective benefits of coastal ecosystems into insurance flood risk models for the first time. The Index uses ground-breaking modelling and a detailed set of global flood maps (Fig. 1-4) to help insurers and policymakers quantify the resilience benefits of coastal nature-based solutions and take action to protect valuable ecosystems and build resilience in vulnerable communities.

Challenge

Coastal communities around the world are on the front line of climate change and a warming ocean. Coral reefs, mangroves, and other coastal ecosystems are a critical first line of defence for millions of people against mounting risks of coastal flooding and storm surge as a result of climate change. Coral reefs for example can dissipate up to 97% of wave energy, reducing the impact to coastlines. But, despite their role in protecting lives and property, their benefits are rarely accounted for in risk industry models, disaster risk reduction strategies, or development priorities.

Solution

ORRAA’s lead global insurance partner, AXA XL, is working with IHE Delft and the University of California, Santa Cruz to develop a ground-breaking Coastal Risk Index (CRI), a tool that quantifies the flood-reduction benefits of mangroves and coral reefs for millions of people. The Index provides a new, more detailed way to assess coastal flooding in the context of climate change, modelling flood hazard and storm surge in current conditions and in possible future climate scenarios up to 2050.

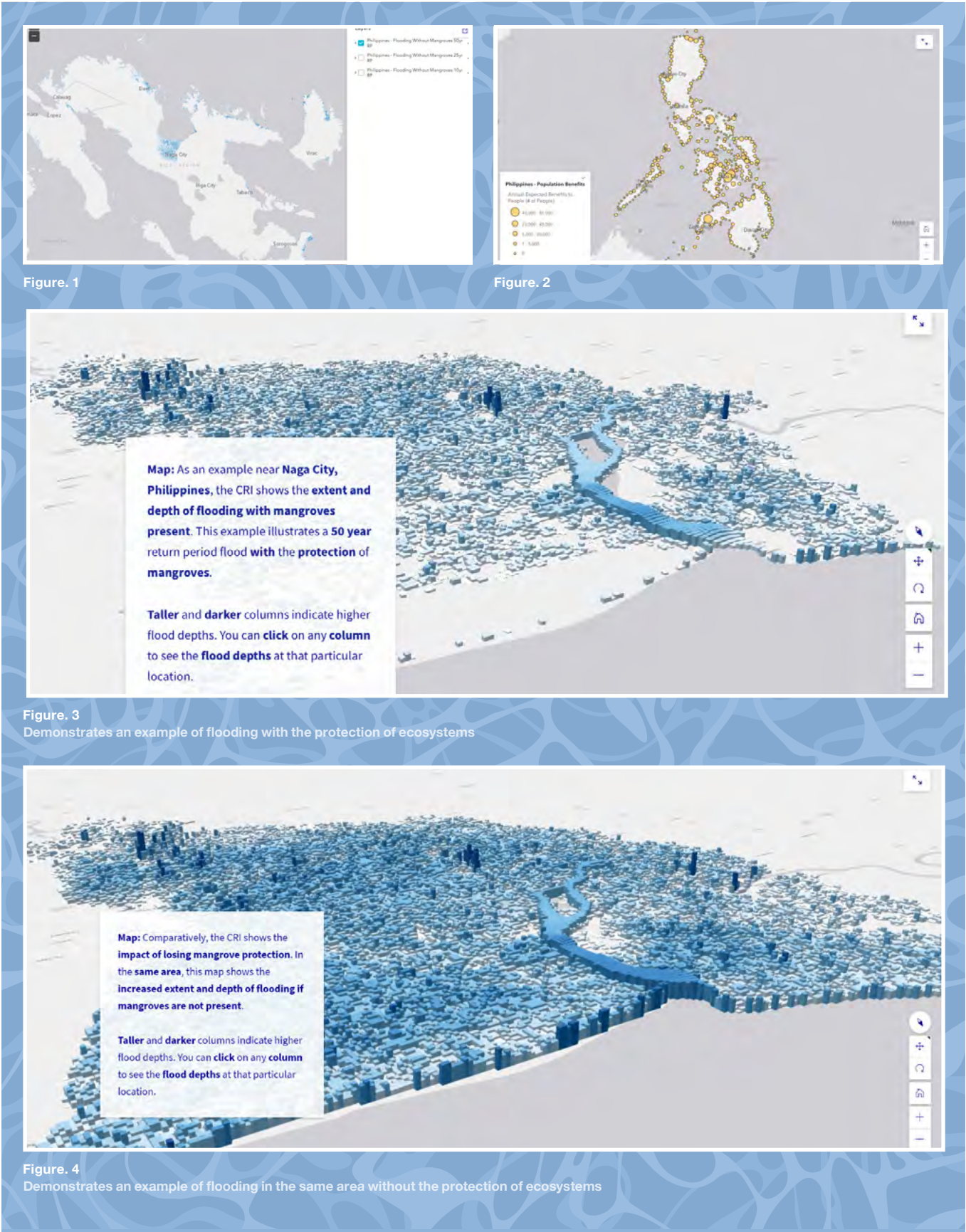
Launched at the UN Climate Change Conference (COP26), the CRI uses global maps showing flooding with and without coastal ecosystems present to demonstrate the importance of mangroves and coral reefs in reducing risks to vulnerable communities.

Scalability and Next Steps

The Index can inform important decisions for both public and private actors. It enables insurers to price and transfer risk more accurately as well as support investors and the development sector in mapping both future liabilities and investment opportunities where nature-based solutions provide resilience benefits.

It also seeks to support public policymakers in understanding the exposure of their communities to coastal hazards while demonstrating the importance of proactive coastal ecosystem management in building resilience. This in turn could lead to more robust risk reduction strategies to protect and restore these natural assets around the world while at the same time building resilience to coastal flooding for these communities.

Further work to build out the flood maps will take place in 2022. The CRI will also overlay social vulnerability data with the flood maps with the explicit aim to highlight where coral reefs and mangroves could have the biggest impact on reducing risk for climate vulnerable coastal communities.



Risk-Reduction Mechanisms

Insuring against Illegal, Unreported, and Unregulated (IUU) Fishing

Project Lead

ORRAA

Supporting Partners

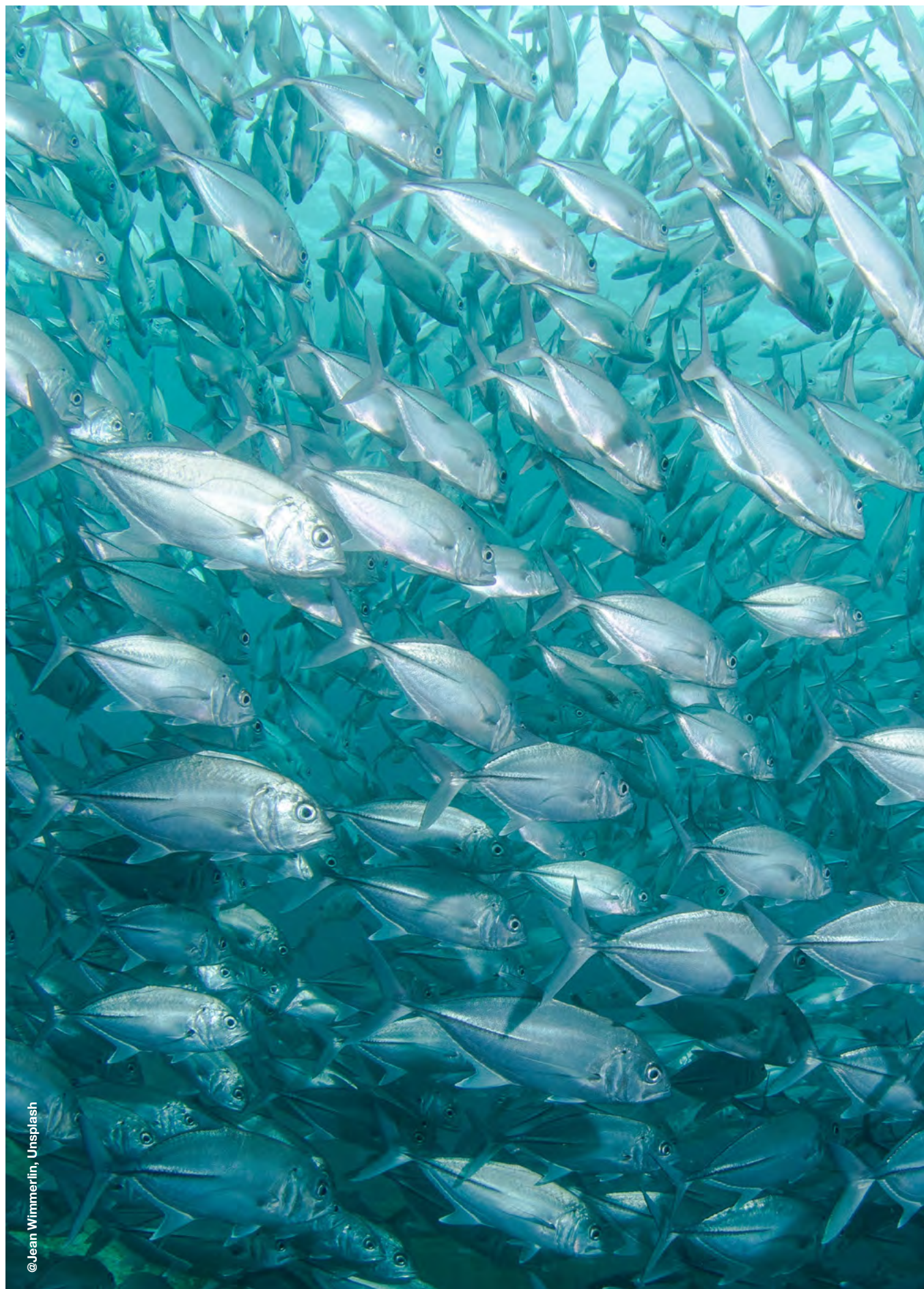
**Global Fishing Watch,
Trygg Mat Tracking,
Oceana, AXA XL**

Financial Support

**Gordon and Betty Moore
Foundation**

Location

Global



@Jean Wimmerlin, Unsplash

Overview

ORRAA is leading a project to reduce the negative impacts of IUU fishing on global fisheries and the communities that rely on them by developing tools to help insurers better assess risk. This project will reduce access to insurance for vessels engaged in this illicit activity, thereby disincentivising and reducing it.

Challenge

IUU fishing undercuts effective fisheries management and harms ocean ecosystems. It is estimated that it costs the global economy over US\$20 billion annually, leading to some fish stocks being on the verge of collapse. IUU fishing has become pervasive by taking advantage of the lack of transparency in the fishing industry, using gaps in regulation and monitoring of the high seas and at ports to operate undetected.

With 12% of the world's population relying on fisheries for their livelihoods, this activity threatens the economic security of millions of small-scale fishers and their communities. In addition, IUU fishing is closely associated with labour and human rights abuses.

Solution

Removing access to insurance is one lever that has significant potential to reduce IUU fishing globally. ORRAA, with project delivery partners Global Fishing Watch and Trygg Mat Tracking, is leading the development of a rapid risk assessment tool to help insurers evaluate the past behaviours and characteristics of vessels to estimate their likelihood of engaging in IUU fishing.

This tool will help insurers fill information gaps on the vessels they insure and will create a positive cycle of information-sharing leading to increased transparency and improved risk assessments.

The initiative, with support from AXA XL and Oceana, has also worked to assess the feasibility of requiring International Maritime Organisation (IMO) numbers – unique and permanent vessel identifiers – as a condition

of insurance as well as developing policy language to stop coverage and prevent claims payments if a vessel is found to be linked to IUU fishing.

The project builds on the 2017 Insurance Industry Statement Against IUU Fishing and the 2018 Oceana IUU Fishing Risk Assessment Checklist – engaging insurers in implementing the commitments made in 2017 to not knowingly insure vessels that have been involved in IUU fishing.

Scalability and Next Steps

Throughout 2022, the project team will be engaging with insurers to build the rapid risk assessment tool and pilot its implementation. As the initial success of this initiative, AXA XL has taken the first steps to add additional checks on fishing vessels, including requiring IMO numbers.

Cutting off access to insurance makes it more costly for IUU vessels to operate and disincentivises engaging in this illicit activity. It can also help insurers avoid costly claims and exposure to potential liability, making the business case clear.

Putting an end to IUU fishing requires a multi-sector approach that includes the use of technology, expertise from civil society, policy action from governments, and the engagement of private sector actors and local communities. ORRAA's role in catalysing this collaboration is central to presenting a unified front to reduce IUU fishing.



ORRAA in Action

Financial Innovation

Indemnity/Parametric Insurance

Financing the Mesoamerican Reef's Resilience
to Extreme Climate Events

Project Lead
**Mesoamerican Reef Fund
(MAR Fund)**

Supporting Partners
**WTW, Inter-American
Development Bank**

Financial Support
**Government of Canada
and United Kingdom's
Blue Planet Fund**

Location
**Belize, Guatemala,
Honduras, Mexico**

Summary

ORRAA partner MAR Fund, with support from WTW, is implementing an innovative risk financing programme to reduce the costs of repairing reef damage in the wake of hurricanes and storms. Through insuring response costs, the programme offers a model for assessing and covering different levels of damage to specific reef sites, with response capacities developed and set up for multiple pilot sites along the Mesoamerican Reef.

Challenge

Nearly 200 million people around the world depend on coral reefs to help protect them from storm surge and waves, and reefs support billions of dollars of economic activity in the tourism and fisheries sectors each year. Yet the effects of climate change as well as overfishing, unsustainable coastal development, and pollution make reefs some of the most threatened ecosystems on Earth. When a hurricane strikes, heavy seas and debris from high winds can cause severe damage to reefs. Prompt repair by local communities can dramatically reduce the interruption of ecosystem services that a healthy reef normally provides, but such response activities are rarely included in post-disaster management.

Solution

The MAR Fund, working with WTW, has created the MAR Insurance Programme that models hurricane risk and delivers cost-effective parametric insurance cover to fund prompt, community-led repairs at four pilot reef sites along the Mesoamerican Reef (MAR). The MAR is a vitally important ecosystem stretching along the coasts of Mexico, Belize, Guatemala, and Honduras - estimated by the Inter-American Development Bank to provide annual environmental services worth US\$183 million in fisheries, US\$3.9 billion in tourism, and US\$320 to US\$438 million in coastal protection.

Using an innovative model that captures the relationship between the level of cyclone intensity and the level of reef damage at each site, a parametric insurance policy has been put in place which triggers immediate pay-

outs to finance reef repair work. Working with key partners and the governments of the MAR, trained First Responders clean and repair the reefs shortly after they are damaged - providing temporary earning opportunities to local community members, fishers, and tourism workers and minimising the loss of vital reef services to their communities.

The insurance policy is currently held by the MAR Fund and financed by the InsuResilience Solutions Fund, with AXA Climate selected via competitive process as the risk capacity provider for the programme's four pilot sites. It is now being refined and expanded to cover additional sites for the 2022 Atlantic hurricane season.

An estimated 63% of the population local to the reef sites lives in poverty, including 40% in extreme poverty and nearly two million people could eventually see their exposure to ocean risk reduced by the scheme - through increased coastal protection, faster recovery of environmental services provided by reefs, and temporary livelihood opportunities.

Scalability and Next Steps

To date, the initial project investment has been leveraged into an insurance product worth US\$2.5 million in 2021/22, with multi-year premium finance provided by the InsuResilience Solutions Fund. To scale up the insurance programme, MAR Fund and WTW, with the support of the UK's Blue Planet Fund and in collaboration with the Caribbean Biodiversity Fund and other partners in the region, will expand the project to design and deliver reliable

1: Economic Valuation of the Ecosystem Services of the Mesoamerican Reef, and the Allocation and Distribution of these Values, Inter - American Development Bank Climate Change Division, May 2021



event response financing for selected pilot sites in the Greater Caribbean region.

Overall, the programme is a vital step forwards in developing comprehensive risk management strategies for the entire MAR, as well as other reefs around the globe – and truly showcases the potential for financial innovation to build resilience in coastal communities adapting to climate change.



Micro-Insurance

Strengthening the Financial Resilience
of Small-Scale Fishers

Project Lead
Rare

Financial Support
**Government of Canada
and United Kingdom's
Blue Planet Fund**

Location
Philippines and Indonesia

Summary

ORRAA is supporting the expansion of a pilot led by Rare to give small-scale fishers in the Philippines and Indonesia access to insurance products - protecting their livelihoods and helping them, their families, and coastal communities recover from shocks and climate-related events.



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Challenge

There are approximately 50 million small-scale fishers worldwide, and more than 250 million people employed across the small-scale fisheries value chain. Yet, the vast majority of workers in this significant sector of the blue economy currently lack the financial literacy or access to basic insurance that can provide them with a crucial safety net against increasingly frequent storms or other unexpected events.

In the Philippines alone, 1.9 million small-scale fishers, their families, and millions more Filipino people rely on the fisheries sector for income and sustenance. However, the lack of digital infrastructure and limited access to formal financial services is holding back the economic inclusion and resilience of these remote communities, while increasing the need to overfish to recover from shocks.

Solution

After assessing the unique insurance needs of fishing-dependent households and the landscape of available products in seven different coastal communities across the Philippines, ORRAA member Rare partnered with local providers to offer two insurance policies providing life, accident, property damage, and healthcare cover. Now, Rare is expanding this coverage to additional communities in the Philippines and replicating the approach in Indonesia.

The first phase of the pilot in the Philippines enrolled over 4,000 members in basic livelihood insurance—far exceeding the pilot's aim of 500. Rare also successfully delivered insurance literacy training to over 2,760 participants—using remote learning platforms and a combination of virtual and in-person training. Over half of subscribers are women working in fisheries, whose earnings are dependent on unpredictable harvests and inconsistent market prices, making insurance an

important tool to secure their income and wellbeing. Rare estimates that the livelihood protection offered by phase one of the insurance pilot will benefit some 12,500 fisheries-dependent people in the Philippines of which 6,000 are children.

Scalability and Next Steps

The project is now incorporating lessons learned from this successful pilot, with a focus on replicating and scaling it across the Philippines and in seven other countries where Rare's Fish Forever programme currently works with over 1,000 communities.

With new support from ORRAA and the UK's Blue Planet Fund, Rare will begin by expanding training and product offerings to 50 new savings clubs in the Philippines and replicating the approach in Indonesia. Next steps include completing a landscape study, supply and demand analysis, and identifying potential insurance providers.

This project highlights the success of a community-based and gender-sensitive strategy in providing a vital financial safety net to remote coastal communities. It also showcases the potential of financial literacy and tailored insurance in advancing the economic inclusion and resilience of millions of people, who make up a vast and sustainable sector of the global economy but are uniquely vulnerable to the changes in our ocean and climate.

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Credits

Establishing a Voluntary Carbon Market to Restore Mangroves and Support Local Communities

Creating sustainable alternative livelihoods from restored mangroves through a voluntary carbon market

Project Lead
Aqua-Farms Organization

Financial Support
Received mentoring and capacity building support from ORRAA's Ocean Resilience Innovation Challenge, which was financially supported by the Government of Canada. Direct financial support provided by the UK's Blue Planet Fund.

Location
Tanzania

Overview

ORRAA is working with Tanzanian NGO Aqua-Farms Organization (AFO) to enhance the resilience of coastal communities around Dar-es-Salaam, by establishing new sustainable sources of income from the rehabilitation of mangrove forests. The community-led solution is shifting behaviours from destruction to conservation, with a voluntary carbon market and beekeeping, which generates funds to be invested directly back into local facilities. ORRAA supports AFO as one of the winners of the Ocean Resilience Innovation Challenge.



Challenge

Mangrove forests provide a host of ecosystem services and sequester five to 10 times more carbon than terrestrial forests. Yet, mangroves are amongst the most threatened habitats on earth, with climate change and human activities driving their destruction. It is estimated that a fifth of mangrove forests were lost globally between 1980 and 2005. The loss of mangrove forests can have devastating consequences for the communities who depend on them for wellbeing and protection.

In Tanzania, mangroves are routinely cut down for firewood, medicinal purposes, and construction materials or they are trampled to access floodplains used for fishing and to create rice fields. Despite government action and voluntary efforts by communities to stop these practices over the last three decades, mangroves continue to be destroyed or damaged to meet these short-term needs.

Solution

To reverse this trend and create ways for people to benefit from mangrove conservation rather than their degradation, Aqua-Farms Organization (AFO), an NGO dedicated to supporting a sustainable blue economy, is working with the Mbweni and Kunduchi communities on the outskirts of Dar-es-Salaam to create a Voluntary Community Mangrove Carbon Credit (VCMCC) market. The project’s goal is to improve the communities’ resilience by generating long-term revenue from their local forests.

Early on in the project, AFO worked with local women’s groups to train them to replant mangroves. The team used available academic research on the hydrology and soil of the area, as well as lessons learnt from previous local replantation initiatives, to help local women select the best species and plant them using techniques based on traditional ecological knowledge.

Since 2018, over 13,000 mangrove seedlings have been successfully replanted across four hectares of mangroves both at Mbweni and Kunduchi sites. In parallel, AFO is providing beehives, tools, and training to over 40 women in Mbweni and Kunduchi, empowering them to earn an independent and sustainable alternative source of income through beekeeping and the sale of honey and derived products.

Through its first Ocean Resilience Innovation Challenge, ORRAA has supported AFO in refining its business model and in conducting research to quantify the amount of carbon sequestered by the restored forests. ORRAA is helping AFO set up a partnership with Plan



Vivo to verify its estimates, provide certification to its carbon credits, and connect with potential voluntary buyers.

The project requires an initiating investment of US\$139,197.78 and so far, it has raised US\$14,971 (11%). After successful establishment, the project is expected to generate an estimated US\$100,000 in revenue in its first five years through the sale of carbon credits to voluntary buyers and through beekeeping. In its first 20 years, the project will enable the capture of 60,000 tons of CO2. Beyond incentivising the restoration of precious ecosystems, the project will directly benefit the community by ensuring the funds raised go to finance village facilities such as water wells and education equipment. AFO has also earmarked 15% of the project’s revenue to be used for the creation of a Mangrove Conservation Fund dedicated to scale the initiative and expand it to two more mangrove forests in North Tanzania by 2030.



When we started replanting mangroves here in 2013, we were doing it just for the love of our environment, without knowing what mangroves would do for us. But now I see blue carbon is much important than we thought for the health of our planet. We hope that the establishment of this project will create an ecosystem where communities live in harmony with nature.

Bernard Kaitira
Community Representative at Kunduchi



Decentralised Payments

Securing the Livelihoods of Seaweed Farmers through Innovation and Financial Inclusion

Project Lead
MARI Indonesia

Financial Support
Received mentoring and capacity building support from ORRAA's Ocean Resilience Innovation Challenge, which was financially supported by the Government of Canada.

Location
Indonesia

Overview

Through its Ocean Resilience Innovation Challenge, ORRAA is supporting MARI Oceans in Indonesia in its work to enhance the prospects of seaweed farmers and the long-term resilience of their communities - helping them to take more control of the seaweed production value chain through technology, finance, and governance.

Challenge

Seaweed is increasingly recognised as a multifaceted nature-based solution, with growing research pointing to its many benefits in terms of carbon sequestration, coastal protection and as a nature-positive alternative to agriculture. The range of ecological and economic benefits offered by seaweed are likely to make its cultivation one of the fastest growing sectors in the sustainable blue economy.

Solution

To help fulfill the potential of cultivated seaweed for farmers and their families, MARI is initially working with farmers in South Sulawesi to upgrade the production chain through finance and innovation, enhancing their prospects using technology, enabling access to finance and insurance, and improving governance. South Sulawesi is home to more than 60% of Indonesia’s seaweed farmers, and MARI’s aim is to empower them – and ultimately other communities around the world – to draw on the full economic and environmental benefits of seaweed to build their long-term resilience.

MARI’s approach is designed to put every stage of the cycle into the hands of the farmers. Their solutions include ensuring the seedlings purchased are climate-resilient and high-yielding, to deploying sensors that monitor key variables in order to select the best growing sites. To rebalance the relationship with buyers, MARI is also supporting the development of a blockchain-based digital platform that provides real time aggregate data on transactions, operations, and sales to harvesting teams.

As an Ocean Resilience Innovation Challenge winner, MARI has been challenged by ORRAA to refine its business model and value proposition to both investors and stakeholders. During this process, MARI also honed its financial model, expanded its connections in the seaweed and conservation sectors, and built critical skills for building its business model through the ORRAA Leadership Academy.

The project is on track to establish its first hatchery in early 2022. Its goal is to produce 64,000 tonnes of seaweed a year by 2023, generating revenues in excess of US\$10 million and stabilising income and access to finance for more than 1,000 people.

”

The contract model run by MARI Indonesia is transparent, fair and in our favour, allowing us to develop even better. In addition, aquaculture assistance triggers us to gain knowledge and increase crop yields and participate in protecting the natural environment.

Pak Alwi
Farmer on the transition to contract farming and MARI’s support through collectivisation



MARI OCEANS

64,000 TONNES
of seaweed/year

revenues in excess of \$10 million USD

Financial resilience
of 1,000 seaweed
farmers



ORRAA in Action

Science and Research

Exploring the Impacts of Ocean Risks and Vulnerabilities on Small Island Developing States (SIDS) and Least Developed Countries (LDCs)

Project Lead
Stockholm Resilience Centre

Supporting Partners
Stanford Center for Ocean Solutions, University of British Columbia, Gulf of Maine Research Institute

Financial Support
Government of Canada and United Kingdom's Blue Planet Fund

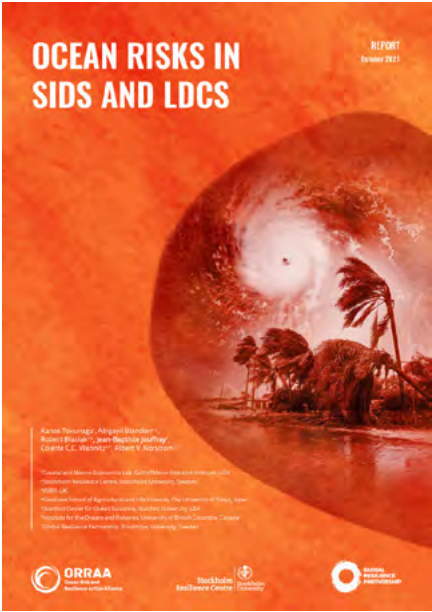
Location
Global

Summary
ORRAA commissioned a series of reports into the specific impacts of ocean risks on Small Island Developing States (SIDS) and Least Developed Countries (LDCs) – with a particular focus on women and girls, and on the risks and opportunities of the fast-growing ‘blue economy’ for coastal communities.

Challenge
Coastal communities in Small Island Developing States (SIDS) and Least Developed Countries (LDCs) are disproportionately vulnerable to the changes in our ocean. At the same time, the world is seeing a scramble for current and future ocean benefits – with significant ecological, economic, equity and policy impacts, and previously unperceived risks and opportunities.

Solution
To better understand ocean risks, their impact on coastal communities, and how a truly sustainable blue economy can be achieved, in 2021, ORRAA commissioned ground-breaking research, in the form of three reports led by the Stockholm Resilience Centre. These reports synthesised the latest knowledge and generated new insights on key emerging ocean risks and their implications on resilience and human wellbeing in SIDS and LDCs. This work is now being complemented with the addition of a framework to assess ocean risk and vulnerability, a more in-depth examination of the gender differentiated roles, and an in-depth study on ocean risks in overlooked industries such as sand mining.

Scalability and Next Steps
Work is now underway to conduct a global and integrated quantitative assessment of ocean risk and vulnerability in SIDS and LDCs. Using a case study approach, new reports will examine the gender differentiated roles and contributions made by fishers across several SIDS and coastal LDCs in Sub-Saharan Africa, and investigate how future risks may translate when applying a gender lens. Finally, the upcoming report will analyse the specific risks (including gender aspects) associated with ocean sand extraction, one of the most extractive emerging sectors of the ocean economy.



Ocean Risks in SIDS and LDCs
Coastal communities in SIDS and LDCs have high levels of exposure and sensitivity to ocean risks, in part owing to the heavy dependency on the sea for fisheries and tourism. This report outlines the impacts of prominent biophysical and anthropogenic stressors on SIDS and LDCs, highlights the key social-ecological features that shape their vulnerabilities to these stressors, and suggests potential ways to mitigate ocean risks and build resilience.



Blue Acceleration: An Ocean of Risk and Opportunities
Driven by increasing consumption patterns land-based sources decline and, with technological progress, the hopes and expectations for the ocean, as an engine of future human development, are increasing.

This report describes how issues of equity and benefit sharing are playing out in the “Blue Acceleration” highlights how SIDS and LDCs are at particular risk from stranded assets and explores the role that public and private finance can play in assisting transformation towards an equitable and sustainable blue economy.



Gender Dynamics of Ocean Risk and Resilience in SIDS and Coastal LDCs
Women are integral to both the fisheries and tourism sectors. Yet women’s roles, contributions, priorities and interests tend to be overlooked and undervalued across sectors as well as in policy and management. This report highlights gender roles in two key sectors of the ocean economy (small-scale fisheries and coastal tourism), describes the gendered dimensions of ocean risks, and summarises efforts across SIDS and LDCs for gender equitable approaches to building resilience to ocean risks.



Assessing the Global Value at Risk in the Global Blue Economy

Project Lead
WWF

Supporting Partners
Metabolic

Location
Global

Summary

As a key contribution to the work of ORRAA, WWF in collaboration with Metabolic has led research to estimate the level of risk global investors are exposed to by pursuing business-as-usual investments into ocean-related assets. Using a first-of-its kind model, the study highlights the value at risk across key sectors of the global blue economy, and showcases the benefits of investing in more sustainable development pathways.

Challenge
Decision makers in the public and private sectors are becoming increasingly aware of the devastating impacts that human activities and climate change are having on ocean ecosystems, and on the people dependent on this precious natural capital. However, so far, a lack of data around the risks caused by unsustainable practices in the blue economy has held back decisive action to address ocean degradation and redirect mainstream investment towards sustainable blue economy opportunities.

Solution
As a key contribution to the work of ORRAA, WWF, in partnership with Metabolic, has conducted ground-breaking research to show global investors how much value they risk by pursuing business-as-usual (BAU) investments into ocean-related assets. The Navigating Ocean Risk study finds that key sectors stand to lose up to US\$8.4 trillion over the next 15 years without immediate action to safeguard ocean resources and align financial portfolios with the Paris Agreement’s target to keep a rise in global temperatures to within 1.5C.

Implementation
The analysis used a first-of-its-kind model and dataset to assess how financial risks arise cumulatively in the blue economy, focusing on the impacts and dependencies of businesses operating in six ocean-dependent sectors: coastal real estate and infrastructure, fisheries, aquaculture, ports and shipping, tourism, and marine renewable wind energy.

Contrasting BAU to a Sustainable Development scenario where business and finance leaders, as well as policymakers, seek to align with international environmental commitments, the research quantifies financial “value at risk” to more than 8,000 listed equities across the six sectors.

The analysis finds that two out of three globally listed companies have some dependency on the blue economy – with different sectors having varying exposure to environmental, climate, physical and transition risks. For almost all sectors the absolute risk to assets and revenues is reduced under a Sustainable Development scenario, where the impact of pollution and resource extraction on the ocean is managed and carbon emissions are kept under control, amounting to **US\$5.1 trillion in savings**.

Scalability and Next Steps
The research provides new and detailed data, as well as a publicly available tool, for global investors to make informed decisions in reducing their exposure to ocean risk. It is also an urgent call to action to all decision makers in the private and public finance sectors to change course and prioritise and incentivise investments that promote nature positive solutions, in order to repair and revive the ocean and build resilience.



Driving Ocean Resilience and Mobilising Blue Finance

Convening States, The Private Sector,
and Civil Society

Partners
**The United Kingdom,
Government of Canada**

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Mackenzie River, Northwest Territories, Canada. In far northern Canada, pulses of freshwater flow down rivers after inland ice and snow melts. These pulses, known as a freshet, carry huge amounts of sediment. The sediment seen in this image flowed into the Beaufort Sea from the Mackenzie River, the longest northward-flowing river in North America.

Overview

Over the course of 2021, ORRAA worked with its partners to strengthen political commitments to reduce ocean risk and build resilience to change. This included participation in numerous virtual and in-person events through the year.

In particular, we worked with our public sector partners at the G7 and the 26th Conference of the Parties of the UN Framework Convention on Climate Change (UNFCCC) to drive our agenda forward.

ORRAA co-hosted a blue finance roundtable with the UK Presidency as the opening event of the UNFCCC’s 26th Conference of the Parties ‘Ocean Action Day’ on November 5th in the Conference’s Blue Zone.



Roundtable

The event delivered on collective ambitions to drive ocean resilience and mobilise blue finance for marine and coastal NbS using the momentum of the UK’s COP26 and G7 Presidencies including the G7’s commitment in the Climate and Environment Ministers’ Communique to ‘strengthen our support for ORRAA’.

At the roundtable, the UK and ORRAA hosted 29 representatives from states, the private sector and civil society including the co-chairs Rt Hon Lord Goldsmith (Minister for Pacific and the Environment at the Foreign, Commonwealth & Development Office and the Department for Environment, Food and Rural Affairs) and Ulrike Decoene (AXA Group Chief Communication, Brand and Sustainability Officer). Participants were invited to use the event as a platform to identify and commit to actions needed to mobilise finance to support innovative and investment-ready NbS that create positive and tangible resilience outcomes for vulnerable communities and our planet.

The main objectives of the event included:

- Securing pledges of action (including membership to ORRAA) and investment into finance and insurance products that build the resilience of coastal and marine natural capital
- Spotlighting how mobilising finance can increase sustainable blue economy development.
- Promoting ocean literacy in the finance sector
- Demonstrating how ORRAA projects are addressing barriers to investment into marine and coastal NbS.

As a result of the contributions announced by the attendees at the roundtable combined with the pre-COP26 engagement led by the Department for Environment Food and Rural Affairs (Defra) and ORRAA, the objectives of the roundtable were met: At least US\$20m was committed to ocean resilience initiatives, four new members of ORRAA were announced, and climate vulnerable state actors voiced their priorities for ocean action and the key barriers to tackle when it comes to mobilising blue finance.



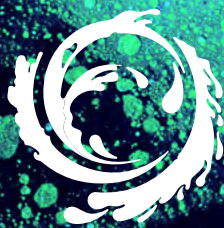
UK and Ocean Risk and Resilience Action Alliance (ORRAA) COP26 Blue Finance Roundtable: Mobilising Finance for Ocean Resilience and Tackling Climate Risk



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Ice in the Fove Basin of northern Canada in late July