

Securing a Future for Corals and Reefs

cordap

Coral Research
& Development
Accelerator
Platform

**"It's a sobering thought
that coral reefs may be lost
within the next century."
"The ocean's power of regeneration
is remarkable - if we just offer
it the chance. It's not too late...
the choice lies with us"**

Sir David Attenborough

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A message from our Executive Director

Coral reefs are the rainforests of the oceans, brimming with biodiversity, yet for the first time, the functionality of an entire ecosystem that supports millions of species and people is at risk of extinction due to human activity.

We have lost half of the world's reefs since the 1950s and without rapid action more than 60% of our remaining corals may disappear by 2050.

We cannot allow this to happen. Coral reefs, although only constituting 0.2% of the ocean floor, support more than 25% of all marine species. One billion people rely on reefs for food, income, medicine and coastal protection. The estimated global economic and environmental value of our reefs is US\$12.7 trillion per year through ecosystem services and goods.

This decade represents our last chance to prevent the total collapse of corals around the world.

In 2020, the G20 nations officially recognized the importance of securing a future for corals. With their endorsement, we launched the G20 Coral Research and Development Accelerator Platform (G20 CORDAP).

This global initiative was created to accelerate and scale up the development of new technologies that will support international coral conservation efforts and secure a future for tropical coral reefs and deep water corals.

Saving the world's corals is possible, but we must act fast.

Many existing restoration methods are suitable only for small scale intervention.

These conservation projects are helping to restore vital patches of coral reef, but the work is expensive, labor-intensive and slow, unable to keep pace with the level of destruction being caused by climate change. Technologies supporting these solutions are often also not being shared internationally.

CORDAP will deliver solutions suitable for large-scale intervention and share our scientific findings and intellectual property to advance coral restoration and conservation around the world.

We are proud to have launched with a commitment from the Kingdom of Saudi Arabia of US \$98 million, spread across 10 years, and this has already allowed us to begin to deliver on our mission. But our plans are ambitious and to meet our goals over the next decade, we'll require an estimated US\$300 million.

With your support, we can redefine the boundaries of what is possible and create a secure future for the world's corals.

Together we can deliver a thriving, functional coral ecosystem. This will not only safeguard billions of livelihoods, while providing protection against the devastating impacts of storms and floods, it will also preserve nature for future generations. There are numerous ways to get involved and to donate. However you choose to help, your contribution will make a real difference.

We are profoundly grateful.
Prof. Carlos Duarte, CORDAP Executive Director



Building a future for the world's corals

The Coral Research & Development Accelerator Platform (CORDAP) is the only international organization fully dedicated to funding global research and development (R&D) for tropical and cold-water coral restoration and conservation.

We believe R&D can shift the boundaries of what is possible, ensuring that our ambitions for the future of corals aren't limited by the technology available today.

Our vision

To avoid the loss of corals and secure a future for these key marine habitats in the face of continuing climate change, we must accelerate delivery of the best science and technology and help develop next-generation solutions.

Our mission

CORDAP will bring together the best minds worldwide, in a transdisciplinary approach, to accelerate international research and development in an effort to conserve and to supply the technologies and innovations required to secure a future for tropical coral reefs and cold-water corals.

We are committed to:



Promoting participation across the Global South, enabling and empowering scientists and researchers to deliver solutions that work for their nations and beyond.



Supporting a gender-diverse, internationally inclusive, transdisciplinary, global community of scientists, technologists, community leaders, and innovators to develop scalable end-to-end solutions.



Fostering new, holistic solutions by combining input from inside and outside of marine science, including mechanical engineering, 3D printing, biology, structural engineering, architecture, and other disciplines.



Ensuring our work is open-source and will allow anyone working in the field of coral conservation to advance and use the platform's technologies.

We will use our funding to lead the way in empowering and enabling the world's best scientific minds, as they redefine the boundaries of technological advancements to deliver a secure future for corals. But to make this possible, we estimate we will need to invest US\$300 million in our global mission in the coming years.

In addition to the Kingdom of Saudi Arabia's initial contribution of US\$98 million, we will need to raise a further >US\$200 million globally by 2030 to meet our ambitions. That is where we need your help.

Donations of all sizes are welcomed.

Contact us to find out more: fundraising@cordap.org



Our work in action

Rebecca Albright is leading an initiative to improve mortality rates in young corals bred to help restoration efforts. Their work is part of a network of projects funded by CORDAP in the Caribbean.

"We're working in Roatán, Honduras, part of the Mesoamerican Reef, the second largest barrier reef in the world. Corals here have been affected by disease and bleaching and the reefs need restoration, but when breeding and growing corals at scale, there is extremely high mortality within the first few months of life.

We're testing potential low-cost, low-effort interventions to reduce the mortality rate at early life stages. We're also testing methods to speed up the rate of adaptation to rising ocean temperatures.

CORDAP's funding is allowing us to test four different larval culturing interventions in the laboratory and in the field, to find the most effective and scalable options for the problem. Funding from CORDAP is also making the buildout of the first coral rearing lab in Honduras possible, with plans for the facility to be operational later in 2024.

Young locals from the community will be trained to maintain the coral rearing facility, and we will also be teaching the broader Honduras and Mesoamerican reef community to do coral sexual restoration work at their home sites too.

Collaborating with CORDAP and being part of a global group with such a wide range of



Rebecca Albright team

cross-cutting expertise, all working together with the common goal of saving corals is so exciting. Because the problems that reefs face are global, and they are advancing rapidly, we don't have time to try one solution at a time, we need to try many different solutions concurrently to figure out what works.

In the same way we needed labs across the globe racing to produce vaccines for COVID-19, we need people around the world to race to develop a portfolio of solutions for coral restoration."

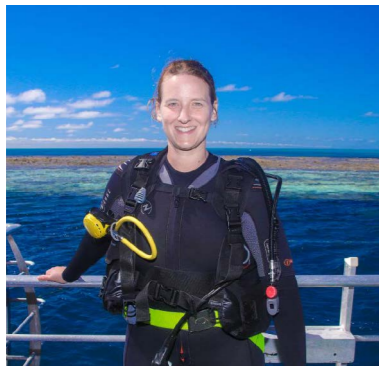


Rebecca Albright team

Amelia Wenger is leading CLEAN REEFS, an initiative to develop a dynamic pollution mapping and risk assessment tool for global coral reefs.

"As of 2022, almost one billion people live within 100 km of a coral reef. This concentration of people in coastal areas has led to large-scale deforestation and land conversion to agricultural and urban areas, which has significantly increased the amount of sediment, nutrient, and contaminant pollution draining into coral reef systems.

This has a severe impact on the reefs, makes them more vulnerable to climate change, and prevents marine protected areas from being effective.



Amelia Wenger

To restore and protect degraded reefs, effective pollution management must be a priority. Coral reefs that have been degraded by pollution cannot be successfully restored without reducing levels of pollution. However coral reef managers lack the tools needed to protect reefs from pollution and coral restoration practitioners lack an easy way of determining if their restoration sites are at risk.

Our project is creating a user-friendly, open-source, dynamic pollution mapping and risk assessment tool that will provide coral reef managers worldwide with the essential information they need to reduce pollution levels on coral reefs. This tool will enable better decision-making for coral reef conservation and moves us beyond documenting the pollution problem on coral reefs to finding solutions to protect them.

CORDAP provided us the opportunity to create this tool, which wouldn't be possible without their funding. CORDAP is a unique funder in the types of projects they invest in, really targeting those sitting between the research, technology, and implementation space, which is so rare, but also the space where real progress can occur.

The successful development of our pollution tool will enable decision-makers, practitioners, coral reef scientists, and citizen scientists from 100+ coral reef countries and territories to make management decisions that will protect corals reefs from pollution, enhance the likelihood of success for coral restoration initiatives, and improve outcomes for coral reefs and the people who depend on them.



Photo: Namosi

I have been dreaming about developing this tool since 2016, where I first encountered a major roadblock in providing guidance to communities.

I was working with a local organisation in the Solomon Islands that was helping local communities weigh up whether to protect a large area of forest or allow some logging, which would provide much needed income to the communities.

It was a decision that would have real consequences for their coral reefs, and yet, there was no easy way to figure out where pollution was going, the reefs at risk, and how different levels of logging activities would impact coral reefs.

Through the development of a site-specific model, which the current CORDAP project is based upon, we were able to determine that logging would have significant impacts to the coral reefs and their fisheries.

Based on this information, the communities decided to protect the forest and prevent pollution from harming their reefs. It made me realize how important this type of information is for coral reef conservation.

I am so thankful to CORDAP for investing in this project as I know it will have tangible benefits to communities, local governments, and local organisations around the world that are also weighing up these important decisions."

Stony coral tissue loss disease (SCTLD) is a lethal coral disease that has spread rapidly throughout the Caribbean. The disease is present on reefs in 18 countries and territories. Valeria Pizarro is leading a project to test the use of probiotics to fight SCTLD.

"Like most Caribbean corals, the corals around San Andres Island are facing multiple stressors, from overfishing and uncontrolled coastal development to marine pollution. However, in the last 5-10 years, several specific events have had a devastating effect on these reefs.

Hurricanes and tropical storms hit the island damaging corals, the massive bleaching event reported worldwide started to affect San Andres reefs in August 2023, and then two years ago Stony Coral Tissue Loss Disease (SCTLD), the deadliest of coral diseases, reached us. It is now affecting all the region's reef sites and diminishing coral populations very quickly.

Our project focuses on developing probiotics to enhance corals' immune response to SCTLD. I have been dealing with SCTLD affected corals since 2020 and the scale of coral mortality is overwhelming. There is no cure currently, and what we can do in terms of applying antibiotics to stop the disease is limited and there is always a possibility of treated corals to get reinfected by SCTLD.

The development of probiotics that can be used in different coral life cycle stages (adult colonies, recruits and micro fragments) and health status (both healthy and SCTLD infected corals) is another strategy that can

be used by researchers, conservation and restoration practitioners.

Our hope is to produce probiotics that can be used in other areas in the Caribbean and to ultimately have a production pipeline that can be followed by other researchers around the world. This will serve to improve coral immune responses, and boost general coral fitness in terms of growth and reproduction.

CORDAP funding is key for this project and for reefs worldwide. The funding will increase the possibilities to develop and prove methods that work for coral restoration, rehabilitation and conservation. In addition, it has given us the opportunity to collaborate with scientists from different countries and backgrounds, and build-up networks among CORDAP awardees that will help strengthen and improve coral restoration and conservation around the world.

Coral reef deterioration is not slowing down, so developing new and innovative strategies will be crucial for the future of coral. I love being part of a drive to help give corals the opportunity to flourish again and the possibility that this could in turn enhance the livelihoods of the human communities that depend on these amazing ecosystems."

[Read more about the projects we have funded through our Awards](#)

CORDAP's Coral Accelerator Program

Our Coral Accelerator Program (CAP) is the key way that we support coral restoration and conservation. Launched in 2022, the program funds international collaborative teams, helping them develop scientific solutions to support coral conservation and restoration.

The projects we fund undergo a meticulous selection process. With our grants, we seek to fund radical and novel R&D that helps push boundaries and deliver the science we need to improve coral conservation and restoration worldwide.

The awards have a global focus, if you're interested in supporting our work, please contact us at fundraising@cordap.org.

Priority areas for CAP funding

Our awards seek to address challenges in a range of priority areas, that cover the many different geographies where corals are found and which occur throughout various stages of their life cycle. Read on to learn more about the types of work you can help support:

Assisted Evolution:

We will need interventions that can help coral species adapt to a changing environment more quickly than they would via natural selection.

Aquaculture:

The production and planting of coral is a key way of restoring reefs, but current methods and systems are too resource and time heavy. Finding ways to make these projects more efficient and effective is critical.

Cold-Water Corals:

Little is known about their geographical distribution, their health, biology, reproduction or how best to restore them when damaged.

Preserve and conserve existing corals:

We urgently need innovative conservation ideas, from developing treatments that can be applied to existing corals to finding ways to improve local water quality.

Intervention planning and monitoring:

We are looking for projects that will help support better decision making and monitoring.

Limit early life mortality:

We need new solutions that promote coral survival at the early stages, from developing growth supplements to creating environments that mimic the natural substrata they grow upon.

Blended artificial and natural reefs:

We want to fund research to create and integrate these structures into existing reefs with minimal damage, offering surge protection and actively enhancing recovery of nearby coral communities.

R&D Capacity building:

We need to rapidly grow global R&D capability and build marine managers and practitioners capacity to understand and use new methods effectively.

Supporting R&D in developing countries:

We're seeking to support the development of R&D in low- to middle-income countries, through projects which scale up restoration efforts in local communities.

You are welcome to focus your donation on the areas you care about most, and whatever the level of giving, every contribution can make a significant difference.



Photo: Ryan Brown

Funding a future for corals

COSTS

All contributions received internationally will go directly to its priority programs.

Administration costs of CORDAP are covered by King Abdullah University of Science and Technology (KAUST) as an in-kind contribution from Saudi Arabia.

FUNDING PER ANNUM

We estimate we will need US\$30 million each year to be able to deliver on our mission.



*Committed by the Kingdom of Saudi Arabia

Since the launch of the awards, we have been overwhelmed by the quality of applications for our CAP funding.

It is clear that there are a huge number of viable and worthwhile projects that continue to need our support.

Focusing our funding

It is vital that our work is guided by science. Our Scientific and Advisory Committee (SAC) help to ensure that we are investing CORDAP funds where they will have the most benefit.

We have identified a range of ways that your donation and support can help us achieve our mission, including:

Research and Development

Delivering initiatives that will significantly improve the scale and impact of current interventions, and creating entirely new technologies, tools and methods of restoring, protecting and managing corals and reefs.

Global Entrepreneurship

Accelerating deep tech, high tech solutions for economic viability and scalability, creating jobs and opportunities.

Scoping Studies

Finding solutions and developing roadmaps to address emerging challenges.

Learning and Development

Building the capacity through fellowships, training, workshops and knowledge exchange. development and sharing of expertise.

Raising Awareness

Promoting coral consciousness globally, and fosters community stewardship of corals and reefs.

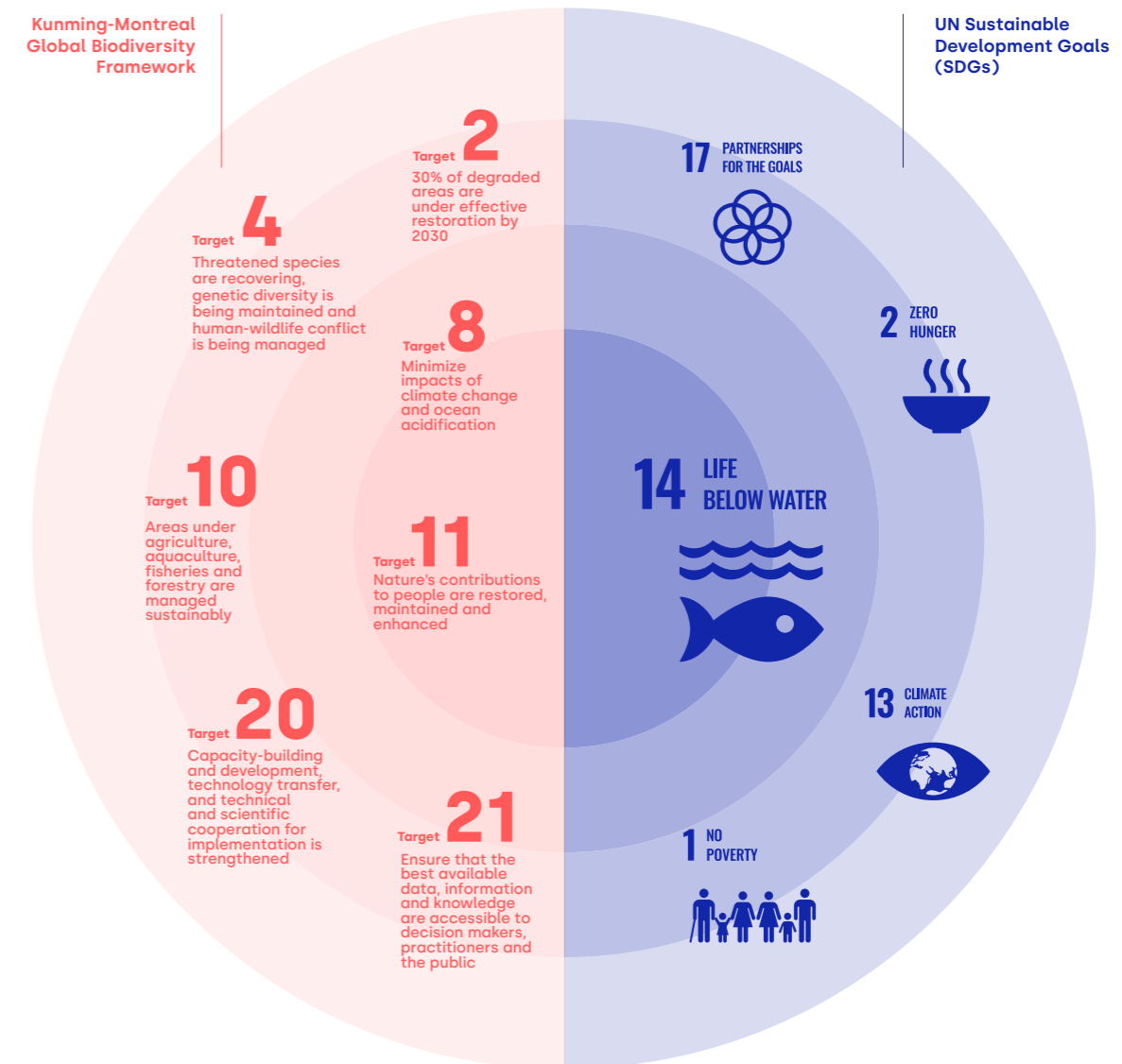
Our Vision for the Future

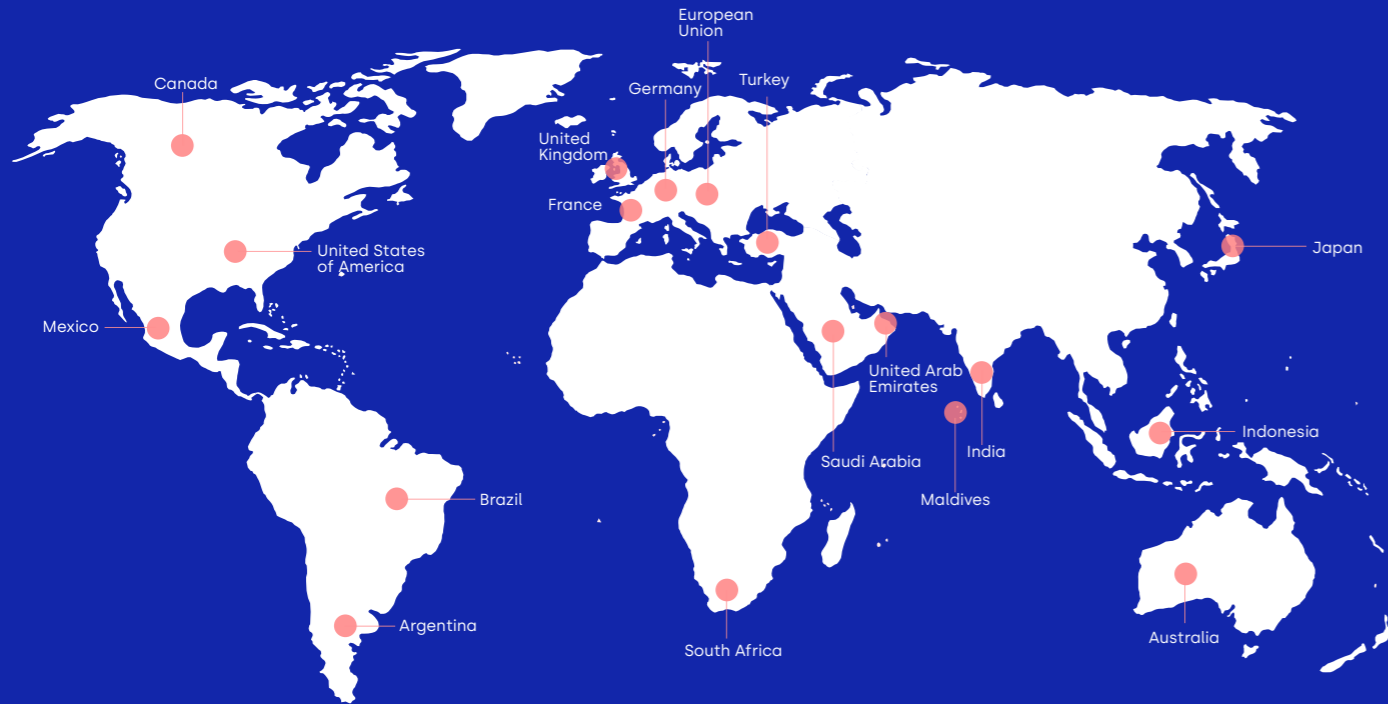
Prevent the further loss of corals and reefs, and accelerate their recovery, by providing the necessary scientific and technological solutions to enable the effective and affordable long-term conservation and restoration of resilient corals and reefs.

- 1 Development and implementation of affordable and scalable technologies for coral reef conservation and restoration.
- 2 Increased R&D funding for corals and reefs conservation and restoration.
- 3 Building capacity for coral reef conservation and restoration in developing countries.

Our work also aligns with and contributes to existing global agreements and targets, including the **UN Sustainable Development Goals** and the **Kunming-Montreal Biodiversity Framework**, which aim to halt biodiversity losses by 2050 and restore 30% of degraded habitats by 2030. This means our partners and donors are supporting internationally recognized action to protect and restore marine biodiversity, as well as mitigating climate change impacts and global poverty while contributing social responsibility corporate targets.

CORDAP supports the global goals





Global collaboration is at our core

The main threats facing corals are triggered by global issues, and we need a global community to solve them.

Our Initiative Governing Committee (IGC) is composed of G20 Member states, along with many other countries and international agencies, including UNEP, the Global Fund for Coral Reefs (GFCR) and the International Coral Reef Institute (ICRI). Together, they are responsible for approving CORDAP’s strategic plans and operating procedures, as well as approving funding allocations to research projects recommended by the Scientific and Advisory Committee.

Dr. Osama Faqeeha, Deputy Minister of Environment, Ministry of Environment, Water and Agriculture, Saudi Arabia, and Vice-chaired by Jennifer Koss, Director, NOAA Coral Reef Conservation Program, United States. Prof. Carlos M. Duarte is the Executive Director.

The CORDAP IGC is



**Chaired by
Dr. Osama Faqeeha,**
Deputy Minister of Environment,
Ministry of Environment, Water
and Agriculture, Saudi Arabia.



**Vice-chaired by
Ms. Jennifer Koss,**
Director, NOAA Coral Reef
Conservation Program,
United States.



**Professor
Carlos M. Duarte**
CORDAP Executive Director
and CORDAP Foundation
CEO.

Advisory Members to the IGC

Coral Restoration Consortium (CRC)
Dr. R. Scott Winters

Global Fund for Coral Reefs (GFCR)
Mr. Yabanex Batista

Great Barrier Reef Foundation (GBRF)
Dr. Theresa Fyffe
Ms. Margot Andersen

International Coral Reef Initiative (ICRI)
Mr. Francis Staub

International Coral Reef Society (ICRS)
Prof. Christian Voolstra

Observer - Japanese Coral Reef Society (JCRS)
Dr. Atsushi Watanabe

The Commonwealth Secretariat
Dr. Nicholas Hardman-Mountford

Khaled bin Sultan - Living Oceans Foundation
Dr. Alexandra Dempsey

Mirpuri Foundation
Ms. Ana Agostinho

UN Environment Programme (UNEP)
Mr. Hally Blanchard
Ms. Sinikinesh Jimma
Dr. Leticia Carvalho
Mr. Gabriel Grimsditch

XPRIZE
Mr. Peter Houlihan



Message from IGC Chair

"Coral reefs play a dynamic role in the health of our planet, but these invaluable ecosystems are facing an unparalleled crisis. We've already lost more than half of the world's coral reefs.

The G20 CORDAP is taking urgent action to help prevent us losing what is left. The IGC serves as the backbone of CORDAP's global leadership and support structure. It ensures the platform achieves its mission efficiently, ethically, and effectively, maximizing its impact on coral conservation globally.

CORDAP's funding will help develop novel R&D and pioneering restoration techniques, while educating communities and raising awareness of the threats corals face. Together, we can ensure that future generations inherit thriving oceans and vibrant coastlines, supported by flourishing coral reefs."

Dr. Osama Faqeeha

Deputy Minister of Environment, Ministry of
Environment, Water and Agriculture, Saudi Arabia,
and G20 CORDAP Chairman/G20 CORDAP
Initiative Governing Committee Chair



Scientific and Advisory Committee (SAC)

includes 22 renowned international coral scientists, managers, and engineers. The SAC assists the IGC by providing guidance and recommendations, monitoring project performance, reviewing the results of the overall Platform program and delivering its evaluation to the IGC.

The SAC is



Chaired by
Mr David Mead,

Executive Director of Strategic Development
at the Australian Institute of Marine Science.



Vice-Chaired by
Anastazia Banaszak,

Research Professor at the Institute of Ocean
Sciences & Limnology, National Autonomous
University, Mexico.

The Global Coral R&D Accelerator Platform Foundation (CORDAP Foundation) is the nonprofit organization that serves as the financial arm of CORDAP. Headquartered at KAUST, the CORDAP Foundation raises the funds and distributes the Platform's financial resources to enable CORDAP's mission.

A central hub, the Platform Central Node, administers the overall Platform, supporting the IGC and SAC and is also based at and fully financially supported by KAUST.

"Innovation, science, engineering, capability, scale, urgency, a global challenge and above all people, are words that come to mind when I think about our efforts to save coral reefs. We are in a race against time, a race we cannot afford to lose, due to the with hundreds of millions of lives dependent on reefs.

The Science Advisory Committee is a global team of experts, tasked with guiding the research and development efforts of CORDAP. A team of individuals who bring diversity of perspectives and skills to the planning and guidance function we provide.

For me, I engaged in CORDAP with a belief that much of the knowledge and ideas we need already exist, but outside of the coral space and so we need to engage this knowledge into the challenge of saving reefs. But the great thing is, whatever our drivers and passion, we all participate in the committee in support of CORDAP."

David Mead

SAC Chair



Our Supporting Partners

We believe that we can achieve more by working together than we could alone. That's why **CORDAP** is partnering with other organizations, to drive change together.

We're proud to work with a wide range of individuals and organisations:



There are many ways supporting partners can work with us, from direct donations to long-term in-kind contributions including knowledge exchanges, collaborating on projects, events, fundraising on our behalf, expanding our networks and raising awareness through communications campaigns and beyond. Key partners can also potentially join **CORDAP** as an Advisory Member to the Initiative Governing Committee.

"I grew up in the Bahamas and as a child, the waters around my island were vibrant with coral. Through working with CORDAP, I've seen firsthand the devastating impact of coral bleaching and loss. That's why I want to be part of the mission to protect our reefs and I'd invite other corporate companies to donate too.

Ultimately, it's an investment in our future. It's about the kind of world we want to leave behind for our grandkids, but it's also about keeping our ecosystems functioning now.

Our oceans need healthy reefs if they are going to continue to support the wildlife and the millions of people that currently rely on them."

Rick Fox

CEO Partanna,
and CORDAP Partner



How you can help

CORDAP is committed to delivering cutting-edge science and technology solutions to restore and protect the world's corals.

We have a duty to protect and preserve the World's corals, and their ongoing existence is dependent on our actions today.

Through the success of CORDAP's mission, together we can secure a thriving future for corals and reefs, benefiting both people and nature.

We recognise that CORDAP's mission would not be possible without the generous contributions from individuals, institutions and organizations committed to making a difference.

We are incredibly grateful for the contributions from the Kingdom of Saudi Arabia and all our supporters and partners who have already given so much at every level, from time and engagement through to direct financial support.

Thank you, without your generosity we would not have launched this mission from such a strong position.

We hope that you have been inspired by what you have read, and that you would like to be involved even further.

We need your help to make CORDAP's mission successful. Any level of donation helps, and every contribution can make a significant difference. Together your donations will help us achieve our ambitious and transformational aims and shape the future of our planet.

We invite you to get involved in creating a lasting legacy that supports the continuing existence of an entire ecosystem.

We look forward to hearing from you.

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JOIN OUR MISSION TO SAVE THE WORLD'S CORALS

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Join **#TeamCoral**



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