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# MAKING WAVES

COMMUNITY SOLUTIONS,  
SUSTAINABLE OCEANS



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This publication would not have been possible without the invaluable contributions and support of the communities showcased and the National Country Teams of the Small Grants Programme.

**Citation:**

United Nations Development Programme. 2017. *Making Waves: Community Solutions, Sustainable Oceans*. New York, USA: UNDP.

**Design:**

First Kiss Creative

**Published by:**

United Nations Development Programme

June 2017

Printed in the United States

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# MAKING WAVES

Community Solutions, Sustainable Oceans

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## Preface

The 2030 Agenda for Sustainable Development, adopted in 2015, sets forth a bold and ambitious vision for the future. The 17 Sustainable Development Goals together shape a better world that supports people, prosperity and planet. If implemented, these goals would radically reshape our common trajectory, and point us toward a sustainable future for the coming century.

Of all of the goals, Goal 14 on sustainable oceans poses some of the most difficult and intractable challenges. 90 percent of global fisheries stocks are either fully exploited, over-exploited or have fully collapsed. By 2050 there will be more plastic in the ocean than fish. We have lost over half of the world's mangrove forests, and of those that remain, more than half are degraded.

If we are to make progress, we must follow three basic principles. First, we must follow the principle of indivisibility – we cannot achieve one goal at the expense of any others. We cannot achieve economic success by more mangrove depletion, more overfishing, more pollution – such growth is not sustainable. The second is inclusion – we can leave no one behind in our race toward economic prosperity, including coastal communities. The third is the principle of acceleration – we must focus on those actions that have multiple development dividends. Actions on Goal 14 follow all three principles. By restoring, protecting and sustainably and equitably managing the world's coastal and marine ecosystems, we are ensuring that coastal communities thrive, that we have a reliable source of protein, that coastal cities and communities are buffered from severe storms, that marine tourism provides an engine of economic growth, and that millions of the world's poorest community members have reliable livelihoods.

We know from experience with the Millennium Development Goals that concerted political will can make a difference – the world was able to lift a billion people out of extreme poverty in under 15 years. We can do the same for oceans. We can sustainably manage fisheries, restore and protect degraded habitat, and prevent and clean-up marine pollution. However, we need innovative solutions and models. Communities are at the very forefront of showing us the way forward on sustainable oceans. By shining a spotlight on effective and innovative community solutions through the UNDP-led Equator Initiative, and by fostering innovation through the UNDP-implemented GEF Small Grants Programme, we are helping to accelerate progress on sustainable oceans, and helping to achieve the world we all want.



**Nik Sekhran**  
Chief of Profession  
Sustainable Development  
United Nations Development Programme



**Gustavo Fonseca**  
Director of Programs  
Global Environment Facility



## Foreword

Fiji's marine and coastal resources provide a lifeline to Fiji's people in forms of cultural significance, coastal protection, livelihoods from marine resources, water sources and other possible income from tourism and research. Fiji has enshrined recognition of the value of oceans and the importance of protection at the national level within its Green Growth Framework, which builds upon the Government of Fiji's commitment to protect 30 percent of its seas as marine protected areas by 2020, and its Oceans Policy Framework. At the community level, Fiji recognizes the importance of marine and coastal ecosystems through its intimate cultural and traditional links to the sea.

Fiji is a leader in addressing the unique marine and coastal challenges that beset other Small Island Developing States, and we have shown that through our community-based efforts, we can strengthen national resilience, and achieve our own Sustainable Development Goals. We are proud to see that the efforts of the first locally managed marine area in Verata, Fiji – one of 15 community initiatives profiled in this publication – is a model of sustainable development which has been widely replicated not only locally and within the Pacific region, but around the world. Fiji recognizes that community-based initiatives can be a powerful pathway to sustainable development.

The Verata-based Fiji Locally Managed Marine Area Network has shown how a community can play an active role in marine conservation programme as well as fulfilling their livelihood needs. The project was conceived through the active involvement of the indigenous resource owners, with their traditional ecological knowledge providing the foundation for establishing an ongoing marine conservation initiative between relevant partners. The key underlying factor that has resulted to the success of the Verata project is the commitment to conservation at the outset from the community leadership.

As a leader in global efforts to protect, restore, and sustainably manage marine ecosystems, and co-host of the UN Ocean Conference, Fiji is proud to both support national plans and policy frameworks as well as community-based initiatives that deliver on Sustainable Development Goal 14, and across the entire 2030 Agenda for Sustainable Development.

**H.E. Mr. Josaia Voreqe Bainimarama**  
Prime Minister of the Republic of Fiji  
Minister for i-Taukei Affairs, Sugar Industry and Foreign Affairs

## National perspectives



The sustainable use and conservation of the world's marine ecosystems can directly contribute to many of the Sustainable Development Goals. These actions are particularly critical for the local communities and indigenous peoples whose welfare depends on oceans for their food, their

livelihoods, their protection from coastal disasters and their well-being. Seafood provides a crucial source of nutrition for millions of people. Local communities and indigenous peoples all over the world are taking action, demonstrating how sustainably managing fisheries and their habitats can provide lasting, durable sustainable development. We can all learn from this.

### **Børge Brende**

Minister of Foreign Affairs  
Government of Norway



Unsustainable fishing practices, exploitation of marine resources, and plastic pollution are some of the most serious environmental challenges of our time. Successful community-based initiatives to restore, conserve and sustainably manage coastal and marine ecosystems are having an impact

around the world. These initiatives show that communities can strengthen resilience by improving food security, sustaining livelihoods, reducing risks from natural disasters, and creating sustainable jobs from community-based tourism. By taking marine action, local communities are showing that a resilient, sustainable world is possible, and an important role for us within the development community is to support and strengthen these initiatives.

### **Carin Jämtin**

Director-General  
Swedish International Development Cooperation Agency



Local communities are driving effective and innovative solutions for addressing marine and coastal threats. These initiatives already have shown a wide diversity of successful models, many of which are being shared, replicated and scaled up within and across countries. The potential to learn from and

scale up community-based initiatives in sustainable fisheries, marine protection and coastal restoration is essential if we are to meet the Sustainable Development Goals. Germany recognizes the increased need for learning and knowledge sharing, and sees community-based initiatives as one pathway to accelerating progress on the 2030 Global Agenda. This is why German Development Cooperation puts great emphasis on working closely with local communities in the realm of marine conservation projects.

### **Dr. Tania Rödiger-Vorwerk**

Deputy Director General Environment and Infrastructure  
German Federal Ministry for Economic Cooperation and Development (BMZ)



## Oceans, communities and the Sustainable Development Goals

Our global oceans generate immeasurable social, economic, and environmental benefits that catalyze sustainable development, alleviate poverty and sustain livelihoods in communities around the world. Our oceans are the lungs of our planet, generating 70 percent of the oxygen in our atmosphere, and regulating our climate across the globe by absorbing 30 percent of greenhouse gases. Our oceans contribute more than US\$3 trillion annually to the world economy, with global fisheries sustaining over 750 million jobs and livelihoods, and marine tourism sustaining

another 200 million jobs. And our oceans provide more than 160 million tons of fish – 16 percent of the world’s protein, and as much as 60 percent of the protein consumed by coastal communities. In addition, mangroves, sea grasses and coral reefs protect more than 100 million communities from storm surges and natural coastal hazards.

Protecting, restoring and sustainably managing marine ecosystems is key to sustaining these benefits and services, and to achieving the 2030 Agenda for Sustainable Development. Although

Sustainable Development Goal 14 focuses on conserving and sustainably using marine resources, achieving this goal will deliver benefits across multiple Sustainable Development Goals, including reducing poverty (Goal 1), strengthening food security (Goal 2), empowering women and girls (Goal 5), sustaining jobs and livelihoods (Goal 8), and mitigating climate change and reducing risks from disasters (Goal 13), among others.

Despite the multiple benefits of global oceans to humanity, ocean ecosystems are currently under threat. Unsustainable fishing policies,

marine and land-based pollution, invasive species, habitat loss, and ocean acidification are all straining the health of the world’s oceans, with great cost to national and global economies, public health and social welfare. Local coastal communities and indigenous peoples are on the frontlines of marine environmental degradation. These groups are disproportionately dependent upon marine resources for their well-being, and are therefore disproportionately vulnerable to the devastating effects of unsustainable marine and coastal management practices. Indigenous peoples and local communities

have also been the local stewards of the natural resources for thousands of years, and often hold rich traditional knowledge and local solutions to effectively manage and adapt to the environment.

In response to threats to ocean ecosystem health, indigenous peoples and local communities living in marine and coastal areas around the world are taking action. They are protecting, restoring and sustainably managing marine and coastal resources by implementing carefully tailored development models that meet their local

needs. Localizing action to achieve Goal 14 empowers communities to implement locally relevant solutions to the pressures threatening the marine and coastal resources on which their livelihoods depend. The lessons and innovations inherent in successful community-led marine and coastal initiatives demonstrate the linkages between biodiversity and human welfare, contribute to the knowledge necessary for replication and scaling-up to achieve greater impact, and serve as a compliment to global policy action for achieving the Sustainable Development Goals.

# Supporting community action to deliver on the Sustainable Development Goals

## The Equator Initiative

**T**he Equator Initiative brings together the United Nations, governments, civil society, businesses and grassroots organizations to recognize and advance local sustainable development solutions for people, nature and resilient communities. The Equator Initiative accomplishes this through action in three key areas: hosting the flagship Equator Prize, documenting best practices, and convening local-national dialogues. Since 2002, the Equator Initiative has recognized 208 outstanding community initiatives, more than 50 of which are marine. These marine initiatives alone span 29 countries.

The Equator Initiative has recognized some of the leading community-led initiatives with the potential for scale-up and replication. Partners and donors are directly involved in recognizing and championing local action and build unique relationships with some of the most successful, community-driven sustainable development initiatives across the globe. By partnering with and supporting the Equator Initiative, partners and donors gain access to leading community action representatives and knowledge, recognition at the Equator Prize ceremonies and UN conferences, and the opportunity add their voice to the collective, advocating for the power of indigenous people and local community action.

## The GEF Small Grants Programme

**E**stablished in 1992, the Small Grants Programme (SGP) is a corporate programme of the Global Environment Facility (GEF) implemented by UNDP. SGP grantmaking in over 125 countries promotes community-based innovation, capacity development and empowerment through sustainable development projects of local civil society organizations with special consideration for indigenous peoples, women, and youth. The GEF Small Grants Programme embodies the very essence of sustainable development by 'thinking globally, acting locally'. By providing financial and technical support to local and community-based projects that conserve and restore the environment while enhancing people's well-being and livelihoods, SGP demonstrates that community action can maintain the fine balance between human needs and environmental imperatives.

SGP has funded over 20,000 community projects. Of these, 1,027 are in international waters and represent an investment of approximately US\$26 million that has generated an additional US\$38 million in co-financing for the protection of international waters, including oceans. In addition, many biodiversity projects have also been allocated for work in coastal and marine areas, contributing to the rehabilitation and conservation of coastal and marine ecosystems.

SGP projects related to ocean have focused on conservation and rehabilitation of coastal ecosystems and habitats; prevention and reduction of land-based pollution; freshwater resources management; fisheries, land and forest and other natural resources management; and capacity development, networking, knowledge sharing and learning. In addition to direct investment, these small-scale investments have been scaled-up and replicated locally, nationally, and globally through collaboration with other GEF full sized projects, South-South cooperation, links and contributions to policy frameworks and regulations, creation and strengthening of networks, clustering of projects and a wide range of partnerships. SGP has established close partnerships with several GEF full-sized international waters projects to support the community implementation of regional Strategic Action Programmes (SAPs) and plays a role in knowledge exchange about innovative solutions from the ground up.

# Community action for oceans management

**T**his publication describes 15 outstanding community-based marine initiatives that illustrate nature-based solutions for local sustainable development. These solutions range from the creation of a locally managed marine area, to implementing sustainable fishing practices, to fostering community-based tourism, to empowering women to start their own marketing collective, and more. These actions deliver on multiple Sustainable Development Goals at once, and ultimately strengthen the well-being and resilience of each community.

These initiatives demonstrate that with proper support and recognition, local actions can lead to substantial impacts at national and international levels. Each of the communities featured in this publication have received the Equator Prize. Eight of these communities have also received grants from the GEF Small Grants Programme.

These stories show that indigenous peoples and local communities are some of the most effective stewards of the planet's marine ecosystems. They also show that the actions taken by these local initiatives can have widespread impact, in many cases across their entire country and beyond. Together, the 15 community initiatives featured in this publication have conserved more than 3,700,000 hectares of marine area, planted more than 1,800,000 mangrove trees, and engaged over 54,000 young people in community marine initiatives, among many other achievements.

The purpose of this publication is to show the importance of these and similar community initiatives around the world by illustrating how they can help us achieve the 2030 Agenda for Sustainable Development.



# Global challenges to oceans

- A** Pesticide and fertilizer runoff from agriculture
- B** Siltation from unsustainable forestry operations and forest clearing
- C** Marine litter and pollution
- D** Clearing of mangroves
- E** Damage to coral reefs
- F** Areas of biodiversity importance are unprotected, species at risk, fisheries habitat unprotected
- G** Unsustainable fishing, over-fishing
- H** Unsustainable aquaculture
- I** Invasive alien species introduced
- J** Unsustainable tourism

# Community solutions for sustainable oceans

- 1** Sustainable agriculture
- 2** Sustainable forestry operations, forest protection and forest restoration
- 3** Pollution mitigation, litter clean-up
- 4** Mangrove protection and restoration
- 5** Coral reef restoration
- 6** Locally-managed marine areas, buffer zones, marine protected areas, seasonal closures, no-take fishing zones
- 7** Sustainable fishing practices, gear, policies
- 8** Sustainable aquaculture
- 9** Harvest of invasive alien species
- 10** Sustainable tourism

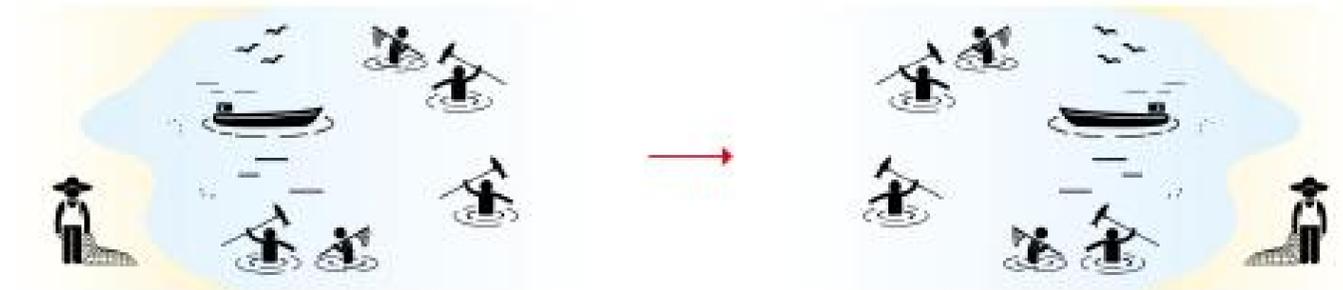


# Replicating and scaling local community action

The community initiatives featured in this publication provide a critical means to deliver on multiple sustainable development goals. The Equator Initiative and SGP support these groups to replicate and scale-up their action to achieve greater impact at local, national, and international levels.

The initiatives highlighted in this publication have been replicated or scaled-up in three distinct ways:

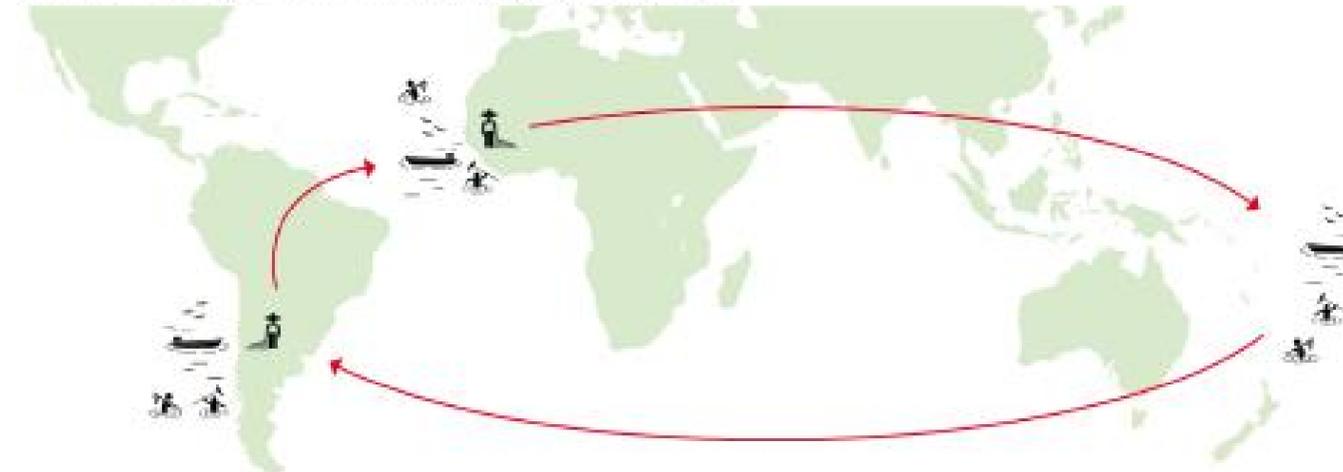
Local action replicated at the local level



Local action scaled-up to national level through policy change



Local action scaled-up to international level through regional exchange



# Multiple Benefits of Oceans

**1 NO POVERTY**

- > 35% of the global population lives in the coastal zone
- > 10% of the global population depend on fisheries and aquaculture for their livelihoods and well-being
- > 90% of capture fishery employees work in small-scale operations in developing countries

**2 ZERO HUNGER**

- Global total capture fishery production from marine waters was **81.5 million tons** in 2014 alone
- Fish is the primary source of animal protein for at least one billion people worldwide
- Fish provides **16%** of the global population's intake of animal protein

**15 LIFE ON LAND**

- Restoring and conserving mangrove forests minimizes coastal land degradation
- Mangrove forests provide spawning sites for key aquatic species

**8 DECENT WORK AND ECONOMIC GROWTH**

- Coastal and marine resources contribute an estimated **US\$28 trillion** per year to the global economy through ecosystem services
- The coastal tourism industry provides an estimated **US\$271 billion** per year to the global economy
- Fishing and aquaculture contribute **US\$100 billion** per year to the global economy and provide **260 million jobs**

**13 CLIMATE ACTION**

- The oceans are the respiratory system for the earth, producing oxygen, absorbing and regulating carbon, and supporting nutrient cycling
- 'Blue carbon' sinks store and sequester **25%** of atmospheric carbon in biomass and sediments
- 55% of biologically captured carbon is 'blue carbon' captured by coastal vegetation and marine organisms, in particular mangroves, salt marshes and seagrasses
- Mangrove forests and coral ecosystems reduce disaster risk of coastal communities by protecting against storm surges
- Coastal vegetation can store up to **10 times** as much carbon as terrestrial forests

# Restoring the mangroves that protect communities in Mexico

## Fundación San Crisanto

**F**undación San Crisanto (San Crisanto Foundation), founded in 2001, focuses on restoring mangroves and preventing floods. Since the foundation's establishment, members have restored over 11,300 meters of canals, and rehabilitated 45 cenotes, or groundwater pools. As a result, flood risk has been reduced and diversity of endemic wildlife has increased. Restoration efforts have generated 60 jobs, and local household incomes have increased substantially among the 570 residents. As a complement to its restoration efforts, the foundation undertakes community education and awareness raising, emphasizing the value of wetland and mangrove conservation for local livelihoods.

Since 2001, the Small Grants Programme has supported Fundación San Crisanto through four consecutive grants totaling US\$130,548 for the conservation of the wetland ecosystem. The first grant improved awareness on the importance of the wetland ecosystem, created a sustainable management program and supported the design of boat trails through the mangroves for ecotourism. The second and third grants supported the creation of infrastructure to facilitate ecotourism. The fourth grant focused on ecosystem restoration and community capacity building, cleaning 10 cenotes and restoring 2,000 meters of canals, as well as facilitating a south-south exchange with communities from Honduras.

Fundación San Crisanto won the Equator Prize in 2010 in recognition of the initiative's unique approach to addressing flood risk through landscape-level restoration that has enhanced local livelihoods, increased local climate resilience and disaster risk reduction and supported poverty reduction.

**“ Being a native of the community, my adventures began in the mangrove, the sea, the beach. Fundación San Crisanto's hydrological restoration was initiated due to environmental deterioration. The mangrove swamp restoration has supported the recovery of the area's biodiversity and was a major determinant in mitigating the impact of Hurricane Isidoro in 2002. This experience has given me the opportunity to see an idea grow that was conceived and developed locally. The community has positioned itself nationally and internationally, becoming a reference and resource on the local management of natural resources. ”**

José Inés Loria Palma,  
President of Fundación San  
Crisanto



### COMMUNITY ACTIONS

- Protected 1,472 hectares of coastal land and 300 hectares of marine habitat, and created a 1,300-hectare no-take zone
- Implemented sustainable fishing in a 5,400 hectare marine area
- Secured 100 hectares of coastal land for community ownership
- Established a voluntary terrestrial protected area of 1,020 hectares for 50 years and restored 850 hectares of mangroves
- Supported the participation of 120 young people in marine initiatives and engaged 70 youth volunteers
- Diversified livelihoods to include artisanal production of salt, cultivation of coconut, production of sweets and creation of wood crafts

### COMMUNITY IMPACTS

- Generated incomes for 170 people from ecotourism, mangrove restoration and sustainable fishing
- Reduced flood risk and enhanced ecotourism activities by restoring mangrove forests
- Increased stock rates to 11,000 mangroves per hectare, providing a carbon capture rate of more than 70 tons per year
- Guaranteed fishing rights to 250 fishers and provided certification to accredit environmentally responsible fisheries cooperatives

### REPLICATION AND SCALABILITY

The organization provides workshops for visiting groups and visits other communities interested in developing similar models to share lessons learned. They likewise utilize field visits, trainings and conferences to increase regional impact and engage other potential communities and groups interested in mangrove restoration activities.



# A model of sustainable, cooperative fishing in Mexico

## Sociedades Cooperativas de Producción Pesquera de Cozumel y Vigía Chico

**S**ociedades Cooperativas de Producción Pesquera de Cozumel y Vigía Chico (Fish Production Cooperative Societies of Cozumel and Vigía Chico) work to advance a model of sustainable fishing for local communities. Located on the island of Cozumel, an international tourist destination, and in the Sian Ka'an Biosphere Reserve, a national park and UNESCO World Heritage Site, the cooperatives have a long history of collaboration dating to 1960. Today, the two cooperatives coordinate their fishing activities off the coast of Cozumel. Together, the cooperatives support their 128 members to acquire fishing permits, collectively manage marine resources, and engage in group decision-making in order to improve market supply chains and increase the abundance and diversity of endemic marine species.

The Small Grants Programme, through its COMPACT programme to promote biodiversity conservation in and around World Heritage Sites and overlapping Biosphere Reserves, has supported Sociedades Cooperativas de Producción Pesquera de Cozumel y Vigía Chico since 2001 with US\$106,886 in funding through two consecutive grants to each of the cooperatives. The grants supported sustainable management of a lobster fisheries in the Sian Ka'an Biosphere Reserve, created a revolving fund, developed a map and database to improve fisheries management, and supported rehabilitation efforts after Hurricane Wilma.

The initiative won the Equator Prize in 2006 due to the cooperative's collective sustainable management of marine resources and support for member engagement, which have improved local food security and livelihoods.



**The motivation for our work is to make fishing sustainable for our community and pursue conservation of our marine resources for future generations. It is a priority for me to live and conserve natural resources because if we do not take care of our planet we put our lives and the environment at risk. As the president of this society and having more than 30 years of experience in this sector, I value having all partners involved in social, economic and environmental activities. We work on sustainable fishing, plastic reduction, and beach cleaning, among other activities. We know that by respecting, conserving and valuing the natural marine resource, we obtain greater benefits during the fishing season.**



José Ángel Canto Noh, Director of Sociedad Cooperativa de Producción Pesquera de Cozumel



### COMMUNITY ACTIONS

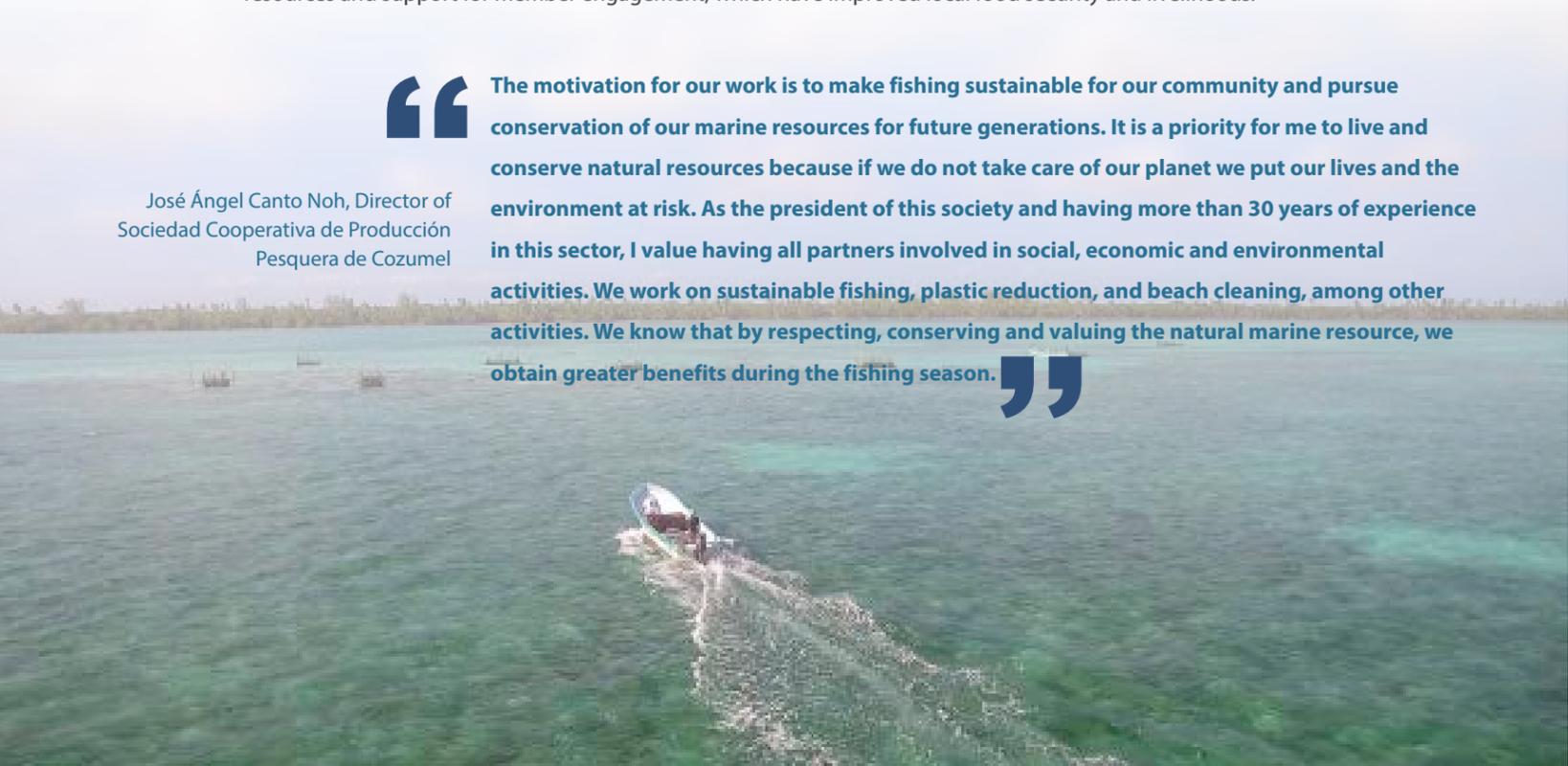
- Protected 1,049 hectares of marine area
- Established eight no-take zones to allow for greater reproduction of species essential for reef health
- Utilized innovative digital technologies, cameras, and drones to improve monitoring
- Provided certification and training opportunities for local fishers

### COMMUNITY IMPACTS

- Increased abundance and availability of fish and other marine species
- Generated income for nearly 100 community members
- Guaranteed fishing rights of 105 fishers
- Enabled market premiums for fishers by focusing on fish quality over quantity

### REPLICATION AND SCALABILITY

Sociedades Cooperativas de Producción Pesquera de Cozumel y Vigía Chico provide trainings to facilitate replication of their sustainable fishing model. The cooperatives have also received recognition such as the Equator Prize and the Merit of Fishing and Sustainable Aquaculture by the National Commissioner of La Comisión Nacional de Acuacultura y Pesca (CONAPESCA). These recognitions have helped the initiative become a model in the region for sustainable fisheries management.



# Conserving marine resources and developing alternative livelihoods in Belize

## Toledo Institute for Development and Environment (TIDE)

**F**ounded in 1997, TIDE partners with local communities to promote sustainable income generation and co-management of both forest and marine resources in the Maya Mountain Marine Corridor. The initiative covers a conservation area of approximately 299,326 hectares of land and 41,000 hectares of sea, and benefits nearly 4,500 local community residents. From its volunteer-led beginning, TIDE has grown to include over 30 full-time staff members. The organization works with communities on education, natural resource protection, research and monitoring. TIDE has established an ecotourism venture to support the development of alternative livelihoods for community members. The group also organizes activities such as beach clean-ups and community fire management training, building the capacity of 12 coastal and inland communities and reaching more than 10,000 people.

TIDE was awarded the Equator Prize in 2002 for its unique approach to marine and forest conservation and community-led ecotourism that together address food security, gender equality, livelihood diversification, and poverty alleviation.

Since 2004, the Small Grants Programme has supported TIDE through five consecutive grants for a total of US\$162,134 to improve the community management of the Maya Mountain Marine Corridor. The first grant improved resource management by training local fishers as community rangers while improving sustainable livelihoods. The second and third grants helped create and expand a Community Stewards programme and provided training in marine and terrestrial ecosystems, relevant laws and regulations, use of GPS, and 'Catch Share/Managed Access'. The last two grants enhanced the co-management of the corridor, promoted sustainable fishing practices, and strengthened the long-term financial sustainability of TIDE through the Ridge to Reef Expeditions Programme.

**“Initially, I was challenged, especially as a female leader, by males who did not have confidence that a woman could lead a prestigious organization like TIDE. I smiled and thought that I would prove that I am serious about making a difference. Today, TIDE is a leader in marine research, resource protection, education, outreach and community development. I have had the opportunity to exchange lessons in fisheries management and community development with local, regional and international partners. Thousands of Belizeans and visitors directly benefit from our management of natural resources, from ridge to reef in southern Belize.”**

Celia Mahung, Executive Director of TIDE



### COMMUNITY ACTIONS

- Protected 400 hectares of coastal land, conserved more than 41,000 hectares of marine area, and demarcated over 2,000 hectares as a no-take zone
- Created a system of rights-based fishing to secure access to fish
- Trained and employed young people as community marine researchers
- Developed a Ridge-to-Reef Expeditions Program to enhance ecotourism

### COMMUNITY IMPACTS

- Generated income for approximately 350 people from ecotourism, sustainable fisheries, oyster harvesting and conservation activities
- Stabilized fish populations and increased lobster populations
- Secured fishing rights for 100 fishers
- Engaged over 1,700 local youths in conservation education and action

### REPLICATION AND SCALABILITY

TIDE annually hosts regional and international marine park managers to share their approach to co-management in the Maya Mountain Marine Corridor. SGP grants have been critical in supporting learning and exchanging knowledge with communities in Guatemala and Mexico around management of protected areas by indigenous peoples and local communities. These exchanges allow for strengthening of the TIDE model as well as replication of TIDE learnings at an international scale.



# A code of responsible fishing and a model for ecotourism in Costa Rica

## CoopeTárcoles

**T**he artisanal fishers of the community of Tárcoles, located in the Gulf of Nicoya on the Pacific coast of Costa Rica, faced declining fish stocks due to a combination of overharvesting by commercial shrimp boats and unsustainable local fishing practices. At the same time, development of the tourism sector along the coast threatened to restrict access to the shore and to marginalize their work. The local fishing cooperative La Cooperativa de Pescadores de Tárcoles R.L (CoopeTárcoles) was founded in 1985 to confront these twin threats. At the forefront of these efforts has been the development of fishing bylaws that stress sustainable practices, enshrined in the community's 'Code of Responsible Fishing'. In partnership with CoopeSolidar R.L., the initiative launched a sustainable and community-based ecotourism venture in 2007 to provide an alternative source of income for 250 local residents. In 2009, the group was successful in gaining approval for a community-managed marine area.

CoopeTárcoles was awarded the Equator Prize in 2006 in honor of their successful approach to address unsustainable fishing practices through the development of fishing bylaws and an innovative community 'Code of Responsible Fishing' to ensure sustainable livelihoods, food security and poverty alleviation.



“ **My father is a founding member with my brothers, and I joined 12 years ago, because for me it is a passion and I carry it in my blood. In 2006, the organization Por la Mar was founded as part of CoopeTárcoles and since then I have served as the manager. These enterprises have been an example and a model for other fishing communities both national and international. I like what I do since my work helps many people, and the social impact is of supreme importance to me. I find it rewarding to support local families through my work. When I am at sea it is a time of a great peace and tranquility and I recognize this work carries great responsibility.** ”

Jeannette Naranjo González,  
Fisherwoman and President of  
the Monitoring Committee of  
CoopeTárcoles



### COMMUNITY ACTIONS

- Protected 17,300 hectares of coastal marine area as a designated no-take zone, with areas one mile out from the shore designated as a restored marine area with limited fishing use
- Guaranteed fishing rights for 200 fishermen and women
- Supported community members in gaining market access for aquatic products, securing market premiums, receiving certification and establishing market cooperatives
- Created a Marine Areas Network to support the creation of 10 marine areas in the Pacific to address responsible fishing

### COMMUNITY IMPACTS

- Increased number of fish and other sources of aquatic food
- Generated incomes for nearly 200 people from community-based ecotourism and sustainable fishing
- Advocated for legislation to support marine conservation that was passed as an official decree in 2011 known as The Declaration of the Marine Area of Responsible Fisheries
- Enhanced community-based rural tourism
- Strengthened scientific records and established a database of marine species

### REPLICATION AND SCALABILITY

The initiative has developed guidelines for the sustainable management of small-scale fisheries based on their work within the Marine Area Network, which has allowed for successful replication by other communities in the region.

# Sustainable fishing, marine resource conservation and forest management in Chile

## Comunidad Indígena de Manquemapu

**C**omunidad Indígena de Manquemapu (Indigenous Community of Manquemapu), an indigenous community managing their own conservation area located in the Osorno Province of Chile, practices sustainable forest management and marine resource conservation in order to meet the economic needs of the indigenous community members. Created in 1993 as a response to external threats from extractive industries, this community-based group sustainably manages a large area of larch forest. Working in both terrestrial and marine ecosystems, the community has also established a fishers' union to monitor fishing practices along the coast, and to ensure that sustainability standards are met. The community also established a revolving fund to create small-scale enterprises, while reinvesting organizational revenues back into local health and education projects.

The community was awarded the Equator Prize in 2014 for its community-based action to promote sustainable forest management, marine conservation and fishing practices that simultaneously diversify livelihoods, strengthen food security, enhance gender equality and reduce poverty.



## REPLICATION AND SCALABILITY

Comunidad Indígena de Manquemapu's model has been replicated in several other communities, which the organization supports through workshops, trainings, skill-shares and site visits. Participation in the Mapu Lahual Indigenous Association and Así Conserva Chile, a trade association that promotes private conserved areas across Chile, has given the community ample opportunity to share their experiences with other indigenous communities around the country, thereby sowing the seeds of future replication.

### COMMUNITY ACTIONS

- Protected 3,600 hectares of coastal land, designated 3,000 hectares as a no-take zone, designated 2,000 hectares for limited fishing, and conserved 600 hectares of the marine area
- Restored 300 hectares of coral habitat
- Ensured community ownership of 3,600 hectares of coastal land
- Involved nearly 100 women and girls in Comunidad Indígena de Manquemapu marine initiatives
- Supported local fishers in gaining access to markets and attaining training and certification

### COMMUNITY IMPACTS

- Generated income for 480 people from ecotourism, sustainable fishing, oyster harvesting and conservation activities
- Increased populations and availability of fish
- Secured fishing rights for 60 fishermen and women
- Improved access for fishers to new markets
- Protected cultural traditions and heritage of the indigenous community of Manquemapu

**“ I joined the board of Comunidad Indígena de Manquemapu because it is my desire to support our community's health and welfare, and because it is an opportunity for me to learn as well as to provide a woman's perspective in a leadership role. The conservation of marine resources is essential not just for business but also for the community and for long-term sustainability. Conservation of marine resources provides a path for sustainable consumption. ”**

Maria Rain Queupuan, Secretary of Comunidad Indígena de Manquemapu



# Empowering local fishers through no-fishing zones in Turkey

## Mediterranean Conservation Society (MCS)

Developed in response to marine ecosystem degradation, declining fish diversity and abundance, and associated losses to fishers' incomes, MCS created a network of no-take zones that put local fishing communities at the lead of marine biodiversity conservation. The organization enforces no-take zones and communicates the value of sustainable fishing techniques. Community-based enforcement strategies are complemented by cooperation with regional and national authorities. MCS's systematic efforts have brought the ecosystem back from a near tipping point. Monitoring activities confirm rejuvenated marine species diversity and abundance in the bay, and average incomes of cooperative members have risen dramatically.

Since 2009, the Small Grants Programme has supported MCS through consecutive grants totaling US\$126,175. The first grant supported the creation of the network of no-take zones through multi-stakeholder consultations. Three follow-up grants, financed through the SGP COMDEKS partnership, supported activities to empower women fishers. Since SGP works to cluster projects in order to achieve a larger impact, other SGP grantees in the area collaborate with MCS for removal of ghost nets from the Gökova Bay ecosystem, among other projects.

MCS won the Equator Prize in 2014 due to the unique community-led creation, patrolling and scientific monitoring of a network of no-take zones, which have vastly increased fish abundance and food security, strengthened local livelihoods, and engaged women.



**As a marine biologist, I have been part of MCS's research and monitoring team since the beginning. MCS evolved my point of view from valuing marine conservation to valuing the importance of human interaction with marine conservation. Creating sustainable livelihoods for people is the crucial point of conservation success. The immense community impact and support has been a success story, encouraging us to replicate this model in other areas. I am happy to know the people of the community, to see how their livelihoods are secured through sustainable environmental measures, and to support them in becoming part of the solution.**



Inci Tuney Kizilkaya, Project Coordinator for MCS

### COMMUNITY ACTIONS

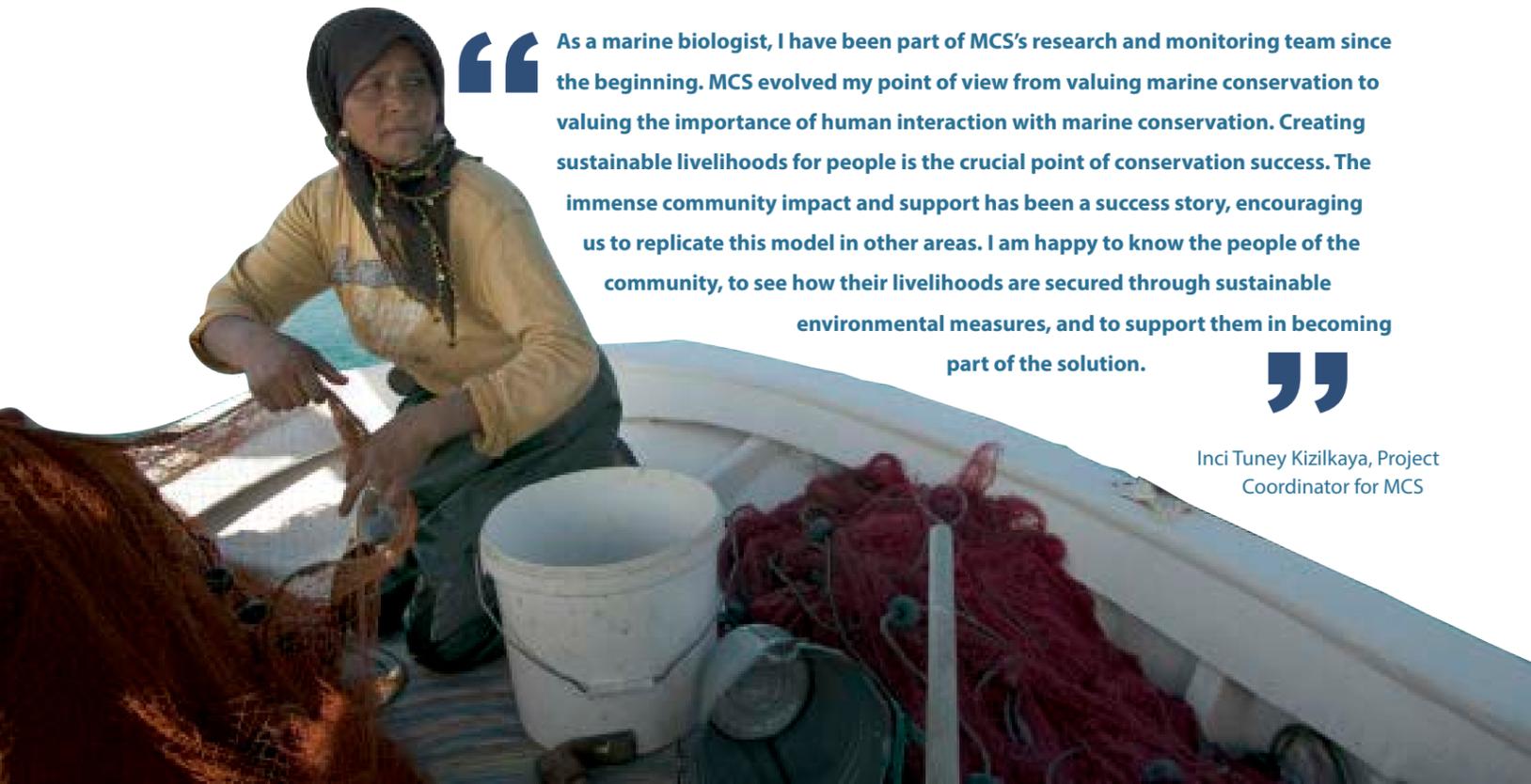
- Created a 3,000 hectare marine protected area, dedicated 25,000 hectares for limited fishing use and demarcated a 3,000 hectare no-take zone
- Implemented a complete ban on purse-seining within the inner Gökova Bay, covering 275 square kilometers
- Launched a project promoting four new commercial invasive species for food use

### COMMUNITY IMPACTS

- Increased the number of fish by 800 percent in protected areas compared to non-protected areas
- Increased populations of endangered Mediterranean monk seal and sandbar shark
- Increased incomes of Akyaka Fishery Cooperative members by 400 percent since 2010
- Increased percentage of total catch of invasive species to 25 percent of total catch within the cooperative, and increased the prices of all fish

### REPLICATION AND SCALABILITY

MCS has pioneered the innovative use of technology for marine conservation and the organization's impressive results are inspiring other communities. MCS has implemented the first SMART-marine software for marine ranger patrolling in the world, developed by the Zoological Society of London (ZSL). This software enables MCS to monitor patrolling activities simultaneously using android phones supplied to rangers. Since the data is GPS-based, it can be used as evidence for cases brought to court. Following the success of the program, ZSL has asked permission to use the SMART marine software in other countries. MCS has also supported communities in other areas of Turkey to replicate their approach.



# Strengthening small-scale fisheries in Morocco

## Association de Gestion Intégrée des Ressources (AGIR)

**A** response to high rates of poverty, poor access to basic social services, and low employment opportunities, Association de Gestion Intégrée des Ressources (Association of Certified Resource Management) strengthens small-scale fisheries around Al-Hoceima National Park. Started in 2008, the group focuses on capacity building for 750 members across Morocco engaged in marine conservation, sustainable fishery management and implementation of public participatory strategies. Sustainable fishing cooperatives have improved local fishers' incomes and generated more than US\$700,000 in revenue. The group has successfully cracked down on both industrial and artisanal illegal fishing practices through community monitoring systems. The use of geo-location devices has significantly reduced commercial trawling in coastal breeding areas and led to the protection of over 1,900 hectares of coastal and marine areas.

The Small Grants Programmed provided US\$50,000 in funding, as well as technical support, to AGIR from 2013 to 2015 in order to improve the living standards of artisanal fishermen and women and eradicate illegal fishing in the coastal zone of Al Hoceima National Park. The project achieved these objectives through improved natural resource management and income-generating activities. A key component of the project was the active engagement of artisanal fishermen and women in a research program and participatory planning process. This was complemented by training and support in sustainable management of marine resources marine management.

AGIR won the Equator Prize in 2014 in recognition of the association's innovative and replicable approach to marine conservation through promoting sustainable fishing practices as well as state-of-the-art monitoring using GPS and drones. These tactics have improved food security, enhanced livelihoods and supported poverty alleviation.

**“ I have worked with fishermen for more than 20 years, and am originally a fisherman, myself. [AGIR] supported the creation of the 1,900 hectare Al-Hoceima National Park.**

**Initially there were many threats in this area, such as dynamite fishing, driftnet fishing, and illegal trawling in shallow areas. Thanks to AGIR, which involved more than 3,000 artisanal fishermen over eight years, together we have been able to restore marine ecosystems and biodiversity. Fishermen's income has improved, resources have been restored, and now we are all proud of our work together.**

**”**

Abdelouahed Kaikai, Co-founder and member of Association de Gestion Intégrée des Ressources



### COMMUNITY ACTIONS

- Established marine protected areas totaling 19,000 hectares, restored 2,000 hectares of coral habitat and delineated 2,000 hectares as a no-take zone
- Protected 2,000 hectares of coastal land
- Secured 8,000 hectares of coastal land for community ownership
- Engaged 1,000 youth to participate in AGIR's marine initiatives
- Revived traditional fishing technologies to replace harmful modern fishing gear
- Eradicated the use of dynamite and reduced trawling activities inside marine protected areas

### COMMUNITY IMPACTS

- Increased availability of fish and aquatic food sources by 20 percent
- Generated income for 1,650 people from sustainable fisheries, ecotourism, and oyster harvesting activities
- Secured fishing rights for 1,350 fishers
- Improved the living standards and incomes of local artisanal fishers through participatory planning and a sustainable marketing strategy of fishery products

### REPLICATION AND SCALABILITY

AGIR's model has been successfully replicated in other communities and the organization is currently scaling-up its projects across the Mediterranean side of Morocco, reaching more than 3,000 fishers.

# Women restoring mangroves for economic empowerment in Senegal

## Fédération Locale des GIE de Niodior (FELOGIE-Niodior)

Since 2005, this federation of women's economic interest groups, centered on the island of Niodior, has worked to rehabilitate mangrove ecosystems and promote natural resource management in the Saloum Delta Biosphere Reserve. The group was founded in response to multiple pressures on the reserve's mangrove and marine resources, and a 22-woman monitoring committee was established to regulate resource harvesting. The initiative developed a participatory code of conduct for marine harvesting, purchased equipment to monitor access to the reserve, and established a central fund to provide loans to individual groups, benefitting more than 7,000 local people through the provision of microcredit.

Since 2000, the Small Grants Programme has worked with FELOGIE-Niodior through four consecutive grants totaling US\$142,522 aimed at empowering women to conserve the mangrove ecosystem in the Saloum Delta Biosphere. The first and second grants supported management of local ecosystem through training in mangrove restoration as well as monitoring of local fisheries through knowledge exchanges, site visits and awareness-raising activities. They also built local women's capacity in organizational management. The third grant created a supply of potable water to local households. The fourth grant focused on improving the adaptive capacity to climate change.

FELOGIE-Niodior won the Equator Prize in 2010 in recognition of the organization's impressive women-led local mangrove rehabilitation and marine conservation that has diversified incomes, enhanced climate resilience and disaster risk reduction, empowered women, and increased food security.



“When I was very young, I followed our mothers to work hard in the islands of Saloum. These women of the islands of Saloum were unrecognized, did not have many resources, and were not involved in decision making. It was from 2005 that women became more dynamic. All women and men were animated by the idea of developing their island. This community effort was rewarded in 2010. FELOGIE-Niodior won the Equator Prize, thanks to the achievements of a project funded between 2005 and 2007 by the Small Grants Programme. Since then, our island is known all over the world. We regularly receive people who come either for research, tourism or exchange visits. And now, women are better listened to.”

Fatou Ndong Sarr, President of FELOGIE-Niodior



### COMMUNITY ACTIONS

- Protected Niodior Island as a terrestrial and marine protected area
- Constructed a modern shellfish processing unit
- Created the Sofna Marine Protected Area, facilitating the conservation of local fish species and sea turtles
- Completed a recovery project to address soil salt intrusion and sustainable cultivation of rice

### COMMUNITY IMPACTS

- Employed more than 600 women and 43 men in shellfish farming, engaged more than 150 youth in marine initiatives, and supported 200 women in the marketing of processed products
- Provided quality control of shellfish harvested through the shellfish-processing unit, resulting in a significant increase in local income
- Planted 880,000 mangroves across more than 12 sites

### REPLICATION AND SCALABILITY

The replication of FELOGIE-Niodior's activities began in neighboring islands of Dionewar and Falia before winning the Equator Prize. After winning the Equator Prize, the activities have been further replicated on the islands of Falia, Dionewar, Diogane, Moundé and Djirnda through exchange visits, shared experiences and actions taken collectively.

# Sustainable oyster harvesting and women's empowerment in The Gambia

## TRY Oyster Women's Association

**T**RY Oyster Women's Association, founded in 2007, brings together over 500 female oyster harvesters from 15 villages in the Greater Banjul area. Harvesters are grouped into cooperatives where they exchange sustainable oyster harvesting techniques and receive training in enterprise development. These cooperatives ensure access to appropriate technologies, set higher standards for working conditions, help members coordinate oyster processing, and improve market access. The cooperatives have also mobilized members to reforest local mangroves and sustainably manage local ecosystems. One of TRY Oyster's biggest accomplishments to date has been its leadership in the development of the Oyster and Cockle Co-Management Plan for the Tanbi Special Management Area in the 6,300-hectare Tanbi Wetlands National Park.

In 2011, the Small Grants Programme provided US\$20,000 in funding to build local women's capacity in sustainable management of the local mangrove ecosystem. The project inception workshop provided training on mangrove conservation in 15 villages; further activities included the planting of 30,000 mangrove seedlings across an area spanning 15 hectares. Mangrove restoration was complemented by identifying suitable sites for aquaculture in the Tanbi Wetlands, the construction of oyster racks to reduce cutting of the mangrove roots during oyster harvesting, and training in aquaculture for 93 women.

TRY Oyster received the Equator Prize in 2012 in recognition of the organization's innovative approach to gender equality, food security, and livelihoods diversification through sustainable oyster harvesting and support for women-led small-scale enterprises.

**“ TRY Oyster is a women-led initiative to support women and their families. Oyster harvester women are the poorest in Gambian society. These women, despite being illiterate and poor, are the breadwinners for their families. Our goal is simple: together, we work to improve the social and economic conditions of our members, and we will do it through self-empowerment rather than through charity. We have accomplished both economic and social achievements. The price of oysters has increased several-fold and is now fair. The women have extended their skills so they can pay school fees for their children, save money in their bank accounts, and feel empowered as decisionmakers. This confidence and trust brings the women together as a stronger unit with a more powerful voice. ”**

Fatou Janha Mboob, Executive Director  
of TRY Oyster Women's Association



### COMMUNITY ACTIONS

- Secured exclusive use rights from the national government in the 6,300-hectare Tanbi Special Management Area
- Trained local women in fisheries management, sustainable harvesting, mangrove reforestation and enterprise development
- Secured access to microfinance and provided training on fund management

### COMMUNITY IMPACTS

- Secured fishing rights for 300 TRY Oyster Women's Association members
- Generated incomes for 500 women from 15 villages through oyster harvesting activities
- Increased the price of oysters by 10 dalasis per cup (US\$0.25)
- Planted more than 53,500 mangroves

### REPLICATION AND SCALABILITY

Since 2007, TRY has expanded from a few members in a single village to over 500 members across the Greater Banjul area. The initiative has established a transboundary collaboration with women's oyster harvesting communities in Southern Senegal, providing technical support and supporting replication of the TRY management model. TRY Oyster was also contracted by USAID to provide technical assistance to oyster harvesting communities to replicate their co-management model in the Densu River estuary in Ghana.

# Resolving conflicts and achieving consensus on sustainable marine management in Madagascar

## Plate-forme de Concertation pour le Développement Durable de la Baie d'Antongil (PCDDBA)

Working in and around Antongil Bay – the largest bay in Madagascar and among the most productive in the Indian Ocean – Plate-forme de Concertation pour le Développement Durable de la Baie d'Antongil (Consultation Platform for the Sustainable Development of Antongil Bay) brings together 150,000 stakeholders living across 95 villages to encourage sustainable management of marine and coastal resources. Developed in 2002 to address conflicts between artisanal and industrial fishing interests, declining fish populations, damage to marine ecosystems from illegal fishing and the conversion of mangroves to rice fields, this multi-stakeholder platform is the first of its kind in the country. PCDDBA has increased fish size and abundance, re-established endemic species, restored marine ecosystem functioning, empowered artisanal fishers, improved local incomes, and provided a viable conflict resolution mechanism to guide resource access and use.

PCDDBA won the Equator Prize in 2014 in recognition of PCDDBA's integrated approach to enhance sustainable marine and coastal management through restoration activities and stakeholder engagement that has resulted in improved food security, secure livelihoods, and women's empowerment.

Fidison Jean Luc Miniminy,  
President of PCDDBA

**“ In 2005, I started working for PCDDBA and I was a member of the Fisheries Commission of the Analanjirifo Region. I was also a leader in the resolution of the conflicts that arise between the traditional fishermen and the great trawlers of Antongil Bay. From 2005 to 2010, I worked to support of the Ministry of Fisheries and key stakeholders on the implementation of the Concerted Development Zone program in Antongil Bay, a project that aims to establish responsible fishing by combating illegal fishing activities and promoting environmentally compatible fishing techniques. As President of PCDDBA, I advocated the development of the Antongil Bay Fisheries Management Plan, the first plan in Madagascar that aims to freeze the fishing effort on a regional scale. ”**



### COMMUNITY ACTIONS

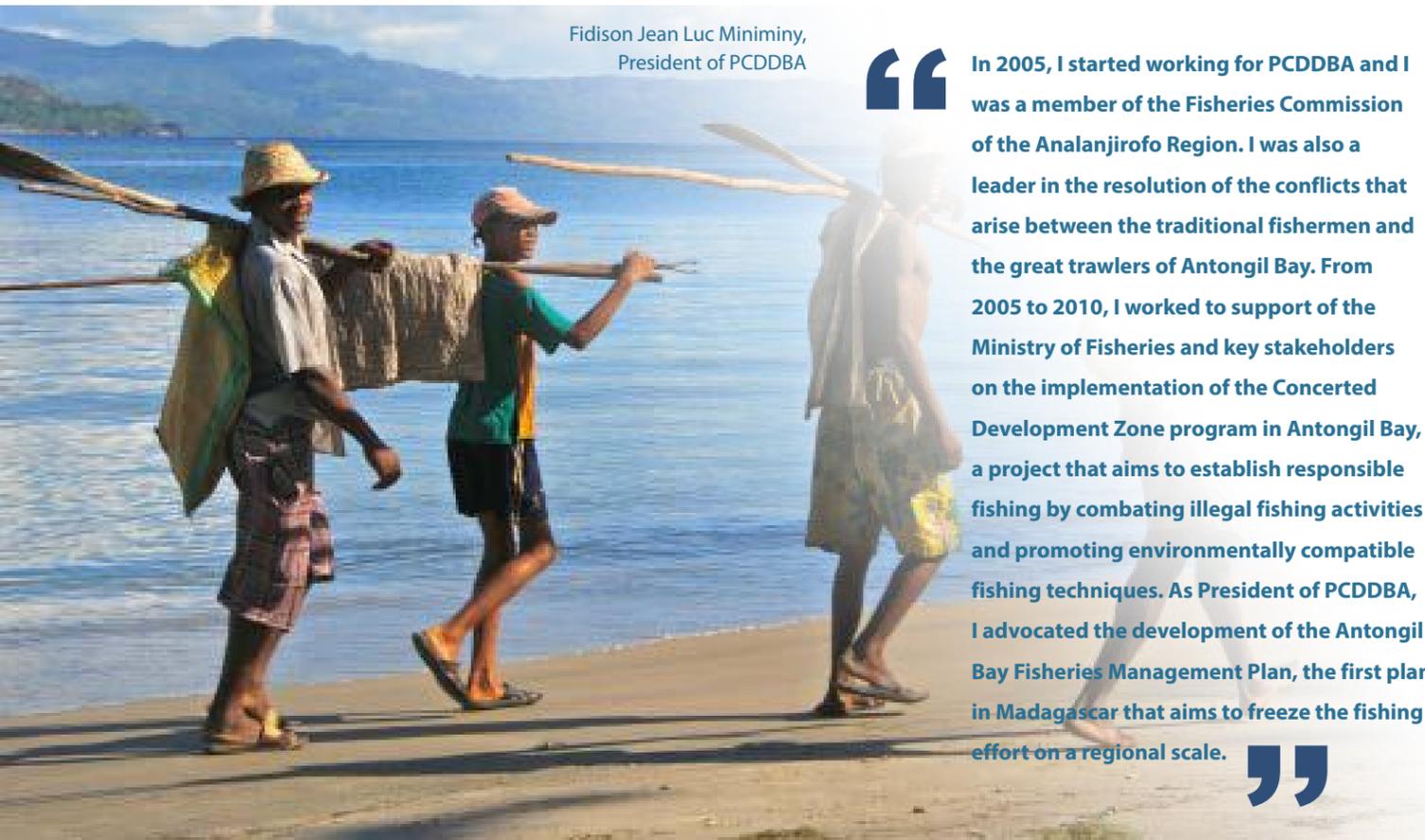
- Protected 287,600 hectares of marine area and 36,000 hectares of coastal land
- Established 8,448 hectares as a limited fishing area and 2,100 hectares as a no-take zone
- Restored 86,280 hectares of coral habitat
- Restored over 124 hectares of mangrove habitat
- Conducted awareness campaigns for local communities to share the value of mangroves and coral reefs
- Developed and advocated for the Act on Implementation of the Concerted Management Plan for the Fisheries of Antongil Bay, which passed in 2014 and includes marine resource management, surveillance of illegal fishing activities, and implementation of permanent locally managed fishing areas

### COMMUNITY IMPACTS

- Increased size and abundance of fish and other marine species in the bay
- Benefited over 9,000 women and over 70,000 youth
- Catalyzed the development of nearly 700 women-owned businesses
- Improved access to new markets for local communities to sell aquatic food products
- Decreased community cutting of mangrove wood for firewood
- Restored the outer edge mangroves of the Mananara North Biosphere Reserve

### REPLICATION AND SCALABILITY

The original scope of PCDDBA's work has broadened to include locally managed fishing areas that are now included in the implementation of the Concerted Management Plan for the Fisheries of Antongil Bay. The Concerted Management Plan for the Fisheries of Antongil Bay has likewise been replicated in the Melaky and Diana regions of Madagascar.

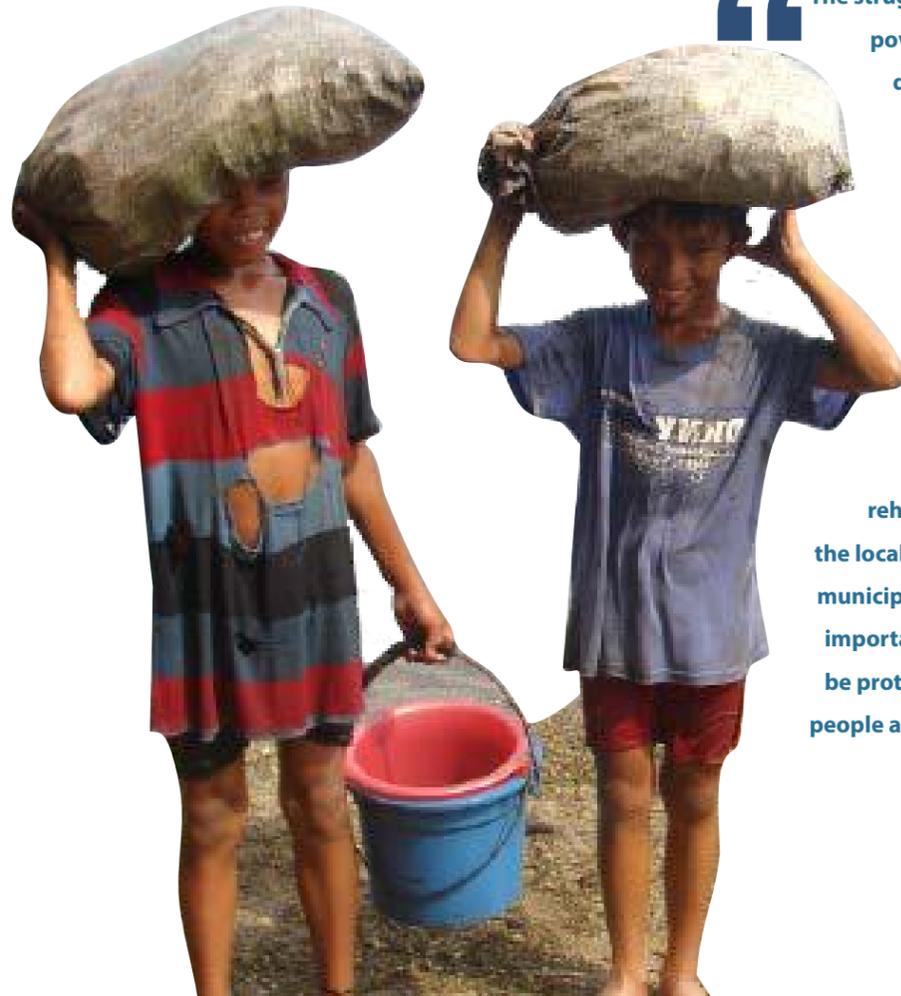


# Restoring mangroves for sustainable aquaculture in the Philippines

## Trowel Development Foundation

**T**rowel Development Foundation is a community-based organization restoring mangrove habitats, employing sustainable aquaculture technology to enhance local livelihoods, and strengthening capacity on disaster risk reduction. Mangrove reforestation efforts have focused on planting native mangrove species in strategic areas, resulting in restored marine biodiversity and protection of coastal areas. Five community-managed tie-crab farms have been established in idle fishponds, employing mangrove-friendly and climate-adapted tie-crab fattening technology. A value-chain system to market tie-crabs has dramatically improved incomes, benefitting 250 subsistence-fishing households.

The initiative won the Equator Prize in 2010 due to the organization's innovative approach to restoring mangrove habitats for sustainable aquaculture. The initiative's work has strengthened climate resilience and disaster risk reduction, increased food security and diversified livelihoods.



“**The struggle of poor and vulnerable communities against poverty, biodiversity depletion, environmental degradation, climate change devastation and poor governance may be slow and protracted, but their local solutions and innovations guarantee the future of the present and the next generation. Illegal fishing activities have been eradicated, a fish sanctuary and closed fishing season have rehabilitated fish habitats, the income of poor fishers has been increased as a result of eco-friendly aquaculture activities, and we have rehabilitated marine biodiversity. Whereas before the local fishers exploited the marine resources in their municipal waters, now they see these resources as an important part of their community life that need to be protected and conserved for the sustenance of the people and their children, now and onwards.**”

Leonardo Rosario, Executive Director of Trowel Development Foundation

### COMMUNITY ACTIONS

- Created marine protected areas spanning 350 hectares, with 50 hectares designated as a fish sanctuary
- Restored 154 hectares of coral habitat
- Facilitated the enactment and ratification of Lavezares Municipal Fishery Ordinance in 2006 that banned illegal fishing activities and the cutting of mangroves in the municipal waters
- Enforced a closed fishing season in Lalaguna Bay from March to May every year
- Trained over 1,000 community members on project management, fishery law enforcement, fish sanctuary management, mussel culture and tie-crab culture
- Protected 67 hectares of existing mangrove forests
- Planted nearly 800,000 mangrove trees across an area spanning 10 coastal villages
- Removed five tons of plastics and debris through regular coastal clean-up efforts

### COMMUNITY IMPACTS

- Improved the status of corals from poor to fair condition, from 18 percent live coral cover in 2006 to 35 percent live coral cover in 2015
- Eradicated illegal fishing activities including the use of dynamite and cyanide fishing
- Improved the abundance and diversity of fish, crustacean and mollusk species
- Increased average fish catch from two kilograms per eight-hour fishing expedition before the intervention to 30 kilograms after the intervention, greatly increasing food security
- Multiplied local incomes from fisheries three-fold through eco-friendly aquaculture
- Sequestered approximately 5,220 metric tons of CO<sub>2</sub> annually through mangrove reforestation

### REPLICATION AND SCALABILITY

The tie-crab fattening technology has been shared with fishers' organizations in Calauag, Quezon and Sorsogon Provinces, covering several municipalities and barangays. The initiative's tie-crab fattening approach and bamboo-potting techniques for mangrove planting have drawn interest at the international level.

# Creating an island conservation model in Indonesia

## Kelompok Peduli Lingkungan Belitung (KPLB)

On an archipelago off of Sumatra that has been devastated by tin mining, Kelompok Peduli Lingkungan Belitung (Belitung Coastal Community Group) works to rehabilitate and sustainably manage coastal resources. Founded in 1997, KPLB's management of coral reefs, mangroves, fishing zones, and tropical forests has improved livelihoods and restored a unique ecosystem. KPLB balances environmental protection with ecotourism, generating income through community-run scuba diving trips, jungle treks, tarsius expeditions, homestays, and fishing tours. KPLB has also successfully advocated for the creation of a regional marine conservation plan that includes no-take and sustainable fishing zones, mangrove reforestation, and five turtle conservation areas.

Since 2008, the Small Grants Programme has worked closely with KPLB to implement an innovative island conservation model in Belitung Island and Kepayang Island. With US\$50,000 in funding, the project supported the creation of a coral restoration programme that generates sustainable livelihoods. The project also developed programs for the conservation of sea turtles, mangroves and the tarsius population, and was instrumental for the designation of Tanjung Binga on Belitung Island as a Coastal and Small Islands Conservation Zone.

KPLB won the Equator Prize in 2015 in recognition of its impressive action on restoration, conservation and protection of marine and coastal ecosystems that strengthens local food security, enhances climate change action and disaster risk reduction, and facilitates livelihood diversification.

**“ We see nature as Mother Earth, where rivers are her veins, the forest is her lungs, the wind is her breath, and the sea is her blood. Damaging the environment destroys our Mother Earth. Belitung is known for tin mining, and palm oil plantations have replaced half of the forest. Rivers have become brown because of the mud from mining waste. Remembering my childhood, I see the river is clear, the forest is still green, and the sea is still blue. I wanted to do something, so my children can feel the clean and cool air again, can see the blue sea filled with shrimp and fish, can see the beauty of biodiversity in its natural world. ”**

Budi Setiawan, Founder of Kelompok Peduli Lingkungan Belitung



### COMMUNITY ACTIONS

- Protected 800 hectares of coastal land, restored 650 hectares of coral reef habitat, and created a no-take zone of over 700 hectares
- Created five turtle conservation areas
- Engaged 15 villages in ecotourism activities
- Opened the KPLB 'Nature School', which has engaged 470 youth in conservation activities
- Collaborated with other NGOs and government agencies to advocate for legislation establishing marine protected areas, revising fisheries' law, and building consensus on fishing rights during mining conflicts

### COMMUNITY IMPACTS

- Replanted more than 45,000 mangroves and cultivated 20,000 mangrove seedlings
- Released more than 17,000 baby turtles
- Employed 60 traditional fishers as diving guides and generated ecotourism income for 500 community members
- Successfully campaigned for the the Ministry of Marine Fisheries to declare Tanjung Binga as a Coastal and Small Islands Conservation Zone

### REPLICATION AND SCALABILITY

KPLB is committed to supporting the replication of their models to reach more people nationally. The sea turtle conservation program has been replicated in three villages; the mangrove conservation program has been replicated in four villages, and the ecotourism program has been replicated in six villages. At the national level, the initiative's program 'From Ridge to Reef' has been adopted by Perkumpulan Telapak Indonesia and the government intends to scale-up the model to be adopted in 27 provinces throughout Indonesia.

# Electrifying coral growth to sustain fisheries in Indonesia

## Yayasan Kerang Lestari Teluk Pemuteran

**Y**ayasan Kerang Lestari Teluk Pemuteran (Pemuteran Bay Coral Protection Foundation) was started in 2000 in response to the collapse of the local fishing industry as a result of coral reef loss from sedimentation, rising water temperatures, and unsustainable fishing methods such as reef bombing. The organization oversees more than 75 artificial 'biorock' coral reefs, which use an electrical current to create mineral deposits to facilitate the growth of transplanted coral. These biorock reefs have restored fish stocks and marine biodiversity, helping to rejuvenate local subsistence fishing livelihoods. The group has created a de facto locally managed marine area, with community enforcement of regulations that prohibit destructive fishing practices. An ecotourism enterprise draws scuba divers from around the world, and ecotourism revenues have been reinvested into local schools, environmental education, and shoreline restoration projects.

The foundation won the Equator Prize in 2012 due to its innovative use of the biorock approach and its focus on community-led action to sustainably manage and restore coral ecosystems. The group has enhanced local food security, livelihood diversification and gender equality, while reducing disaster risk.



**“ Even though I was born in Pemuteran, as a child I could barely tell you the difference between a fish and a coral! I met the two professors who were building the Biorock Project. I was curious about what they were doing and they told me that they were building a house for the fish. The project fascinated me and in my free time I started to help them weld the structures together. In 2007, when the Biorock Center was established, I was asked to be manager. Since then, I've helped to run biorock workshops in Pemuteran, Pejarakan, Gili Trawangan, Sumbawa, Ambon and Pacitan. We have also planted around 5,000 baby corals to regenerate growth on the biorock structures. We have recently started teaching local 14-year-olds how to dive. We hope that over the long term we can create a whole new generation of dive guides who understand our impact on the environment. ”**



Komang Astika, Field Supervisor of Yayasan Kerang Lestari Teluk Pemuteran

### COMMUNITY ACTIONS

- Protected 45 hectares of community-owned coastal land, and protected four hectares of marine area
- Restored coral habitat by building more than 75 biorock structures
- Held two community festivals to highlight the cultural significance of the local marine conservation program
- Mobilized more than 500 youth volunteers from the village and from around the world
- Initiated 25 women-owned marine businesses

### COMMUNITY IMPACTS

- Increased abundance and diversity of fish and other marine species
- Gained recognition as one of the most attractive sites for ecotourism in Pemuteran Bay
- Generated income for more than 200 people through ecotourism and conservation activities
- Created new jobs for local youth with the biorock reef restoration technology
- Secured fishing rights for over 100 fishers

### REPLICATION AND SCALABILITY

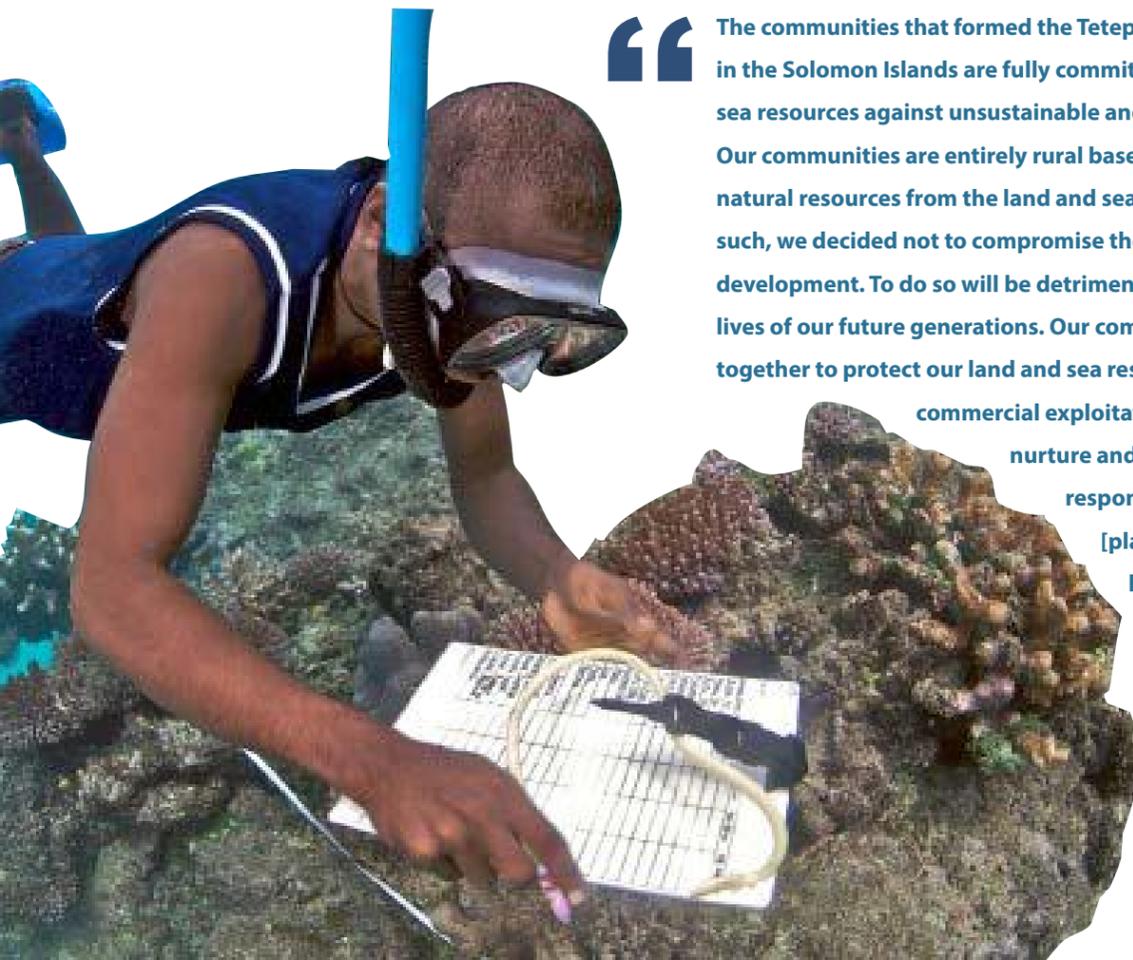
Yayasan Kerang Lestari Teluk Pemuteran's model for implementing community-based biorock technology to restore coral reefs in Pemuteran Bay has been replicated in other communities in the Maluku Islands and in Bali. The organization provides training and knowledge sharing for communities interested in replicating the method.

# Community conservation agreements to protect unlogged forests in the Solomon Islands

## Tetepare Descendants' Association (TDA)

**F**ounded in 2003, TDA represents the legal owners of Tetepare Island, the largest uninhabited island in the tropical Pacific and one of the last remaining unlogged tropical islands in the world. To help indigenous landholders resist pressures from industrial logging companies, TDA pioneered 'community conservation agreements' whereby landholders are provided with alternative livelihood opportunities in exchange for a commitment to sustainable management of marine and forest resources. In addition, a marine protected area has been established as a permanent no-take zone, serving as a refuge for native fish species. Fish abundance has grown substantially, as have local incomes. TDA also operates a community ecotourism enterprise that provides jobs for community members.

TDA won the Equator Prize in 2012 in recognition of its innovative approach to conserving one of the last remaining unlogged tropical islands through community conservation agreements. Complemented by their action on marine protection, these efforts have diversified livelihoods, improved food security and strengthened local climate resilience and disaster risk reduction.



“**The communities that formed the Tetepare Descendants' Association in the Solomon Islands are fully committed to protecting our land and sea resources against unsustainable and commercial exploitations. Our communities are entirely rural based and depend mostly on the natural resources from the land and sea to sustain our livelihoods. As such, we decided not to compromise them in exchange for commercial development. To do so will be detrimental to our lives, but especially the lives of our future generations. Our communities are not only standing together to protect our land and sea resources from unsustainable and commercial exploitations, but we are also helping to nurture and nourish Mother Nature. We are responsible for nurturing and protecting [plant and animal species] from human exploitations and climate change. We must not take this responsibility lightly or for granted.**”

Allan Tippet Bero, Program Coordinator of TDA

### COMMUNITY ACTIONS

- Protected 3,350 hectares of coastal land
- Delineated 5,400 hectares of marine area for limited fishing use, demarcated 1,300 hectares of marine area as a no-take zone, and protected 2,800 hectares of coral habitat
- Secured community land tenure and secured fishing rights for 3,500 fishers
- Planted 1,000 mangrove seedlings on Tetepare Island
- Engaged 150 women and girls in the community turtle nest monitoring program

### COMMUNITY IMPACTS

- Increased fish abundance in traditional fishing areas through the spillover from flourishing no-take and sustainably managed areas
- Increased turtle populations
- Restored mangrove and seagrass meadow habitats
- Generated incomes for over 600 people from ecotourism, sustainable fisheries and mangrove restoration

### REPLICATION AND SCALABILITY

The Solomon Islands Community Conservation Partnership (SICCP), a local NGO and TDA's main partner, is using the TDA model to establish new community partners throughout the Solomon Islands. TDA has hosted 'Look and Learn' groups from other communities in the Solomon Islands, resulting in widespread replication of the TDA model. TDA's model is also being scaled up by conservation NGOs that have utilized it to execute national-level projects.

# The first locally managed marine area in Fiji

## Fiji Locally Managed Marine Area Network

The community of Ucunivanua, located in the Verata district of Fiji's largest island, was the site of the country's first locally managed marine area in 1997. Scientists from the University of the South Pacific supported environmentalists and local villagers in declaring a ban on harvesting from within a stretch of inshore waters for three years, building on the tradition of *tabu* prohibitions for certain species. After seven years of local management, populations had rebounded and village incomes had risen significantly with the increased harvests. The success of the Ucunivanua locally managed marine area spread rapidly, and a support network – Fiji Locally Managed Marine Area Network – grew from this success. Today, the network had increased to include some 466 locally managed marine areas, which together regulate access to nearly 80 percent of Fiji's customary fishing areas. The network has also inspired replication in countries across the Pacific.

Fiji Locally Managed Marine Area Network won the Equator Prize in 2002 as the first locally-managed marine area network in Fiji. The initiative's network of marine areas provide an easily replicable means to simultaneously address poverty reduction, food security, livelihoods, biodiversity conservation and climate resilience.



**As a traditional managed marine leader, it is empowering to realize how locally area strategies and objectives are aligned to work within our traditional governance system. Such initiatives fostered awareness on the importance of our resources and the empowerment of our communities to make sound decisions on the management of their resources.**



Josefa Cinavilakeba, Turaga na Rokosau, Paramount Chief of the island of Totoya, Fiji Locally Managed Marine Area Network Trustee, and Director of Pacific Blue Foundation

### COMMUNITY ACTIONS

- Created locally managed marine areas totaling 2,765,000 hectares, with a focus on conservation and limited fishing use, and designated 385,000 hectares as no-take zones
- Conserved more than 8,700 hectares of community forest areas
- Restored 500 hectares of coral habitat
- Designated 500 hectares of mangrove habitat for restoration and planted 50,000 mangrove trees

### COMMUNITY IMPACTS

- Influenced national policies to establish conservation officer positions and provincial management bodies in all 14 provinces in Fiji
- Improved local livelihoods and diversified incomes by as much as 30 percent
- Increased the availability and quantity of fish and other aquatic foods
- Generated income for 20 communities, with an average of 40 family households each, from ecotourism activities in locally managed marine areas

### REPLICATION AND SCALABILITY

Since 2002, membership in Fiji's locally managed marine areas has increased from 35 to 466 local villages, who together manage nearly 80 percent of Fiji's customary fishing areas and collectively surpass Fiji's commitment for protecting 30 percent of inshore marine areas. The Fiji Locally Managed Marine Area Network has inspired grassroots work to conserve marine resources at the global scale; the model has been replicated in 20 countries. Locally Managed Marine Area Networks now exist in the Philippines, Indonesia, Papua New Guinea, Micronesia, Palau, and the Solomon Islands, and involve more than 1,000 community members. The Locally Managed Marine Area movement in the Pacific has also sparked interest globally, with requests for support from Southeast Asia, Africa and Central and South America, especially Madagascar, Kenya and countries in the West Indian Ocean.

## Building on Success: Reflections & Lessons Learned

**C**ommunity action is an essential driver for the achievement of the Sustainable Development Goals. Communities around the world are developing equitable, inclusive and sustainable pathways for addressing environmental pressures and accelerating achievement across the 2030 Agenda for Sustainable Development. Coastal communities and indigenous peoples are disproportionately impacted by marine and coastal degradation that threatens their food security and livelihoods, and increases their disaster risk. At the same time, they hold the knowledge, skills and commitment to affect change from the ground up through local action.

The community initiatives highlighted in this publication showcase the power of local action to restore marine ecosystems. Together, the 15 communities featured have conserved more than 3,700,000 hectares of marine area, limited fishing within 2,800,000 hectares, dedicated over 420,000 hectares as 'no-take' zones, and secured more than 7,000 fishermen and women's fishing rights. They have planted more than 1,800,000 mangroves to sequester carbon and restore coastal ecosystems, and in response to acidification and degradation of local coral reefs, these communities have undertaken coral restoration in over 92,000 hectares of marine area. A majority of the communities featured have reported increases in fish and aquatic food sources due to their conservation, restoration, and regulatory actions, strengthening food security and securing local livelihoods.

The 15 community initiatives address unsustainable practices and mismanagement of marine and coastal resources by implementing solutions that are comprehensive, diverse and locally relevant. A common approach shared by these initiatives is to foster a participatory process with key stakeholders, ensuring that communities themselves have ownership over their own conservation and development. Additionally, many of the initiatives have integrated knowledge sharing, workshops and training, site visits and engagement to support other communities to take action to address marine and coastal challenges. Although many of the local actions address the communities' marine and coastal challenges, the lessons from these actions are being tailored and applied in other communities experiencing similar challenges, magnifying their impact.

Community action and innovation to address environmental threats and challenges requires sustained technical and financial support to achieve project results, and to have critical impacts that can influence policy and increase impacts. In the last two decades, the Small Grants Programme has supported over 1000 communities and civil society organizations in 125 countries to sustainably manage marine and coastal areas, fishing grounds and lake basins, with an investment of 27 million in grants and 42 million in co-financing. In addition, SGP works with communities to help them adopt good practices, influence government policy and catalyze further investment in environment and sustainable development.



**“ The consolidation and globalization of local actions that are proven to have achieved food security and nutrition, improved income and sustained livelihoods, rehabilitated and protected biodiversity and the environment, and mitigated the impacts of climate change with good governance is imperative in achieving the sustainable development goals of the community of nations. Additional resource allocation and support to the global movement of local and indigenous land and sea managers is needed from the international community to consolidate local community achievements, and initiate and sustain more local actions together to address global challenges with scaled-up solutions and innovations. ”**

Leonardo Rosario,  
Equator Prize 2010 Winner

The Equator Initiative, including the Equator Prize, is a driver for sharing best practices and lessons, advancing community action, strengthening collaboration and partnerships, and supporting replication and scaling-up. Twelve of the 15 Equator Prize winners featured have successfully replicated their marine project models in other communities. A particularly effective example has been the creation of sub-networks to extend the Fiji Locally Managed Marine Area Network throughout the country, with the support of local government to ensure rapid scaling-up and replication of this successful model.

Local community action recognizes the inherent links between sustainable marine and coastal management and livelihoods, economic development and social welfare. The 15 Equator Prize winners and eight SGP grantees highlighted in this publication provide examples of bottom-up, community-driven approaches to reversing negative trends in ocean health, and to conserving marine resources for generations to come. Their stories provide evidence of the impacts of local action, the contribution of actions on Goal 14 to other Sustainable Development Goals, and the potential for scaling-up local projects to accelerate achievement of the 2030 Agenda for Sustainable Development.

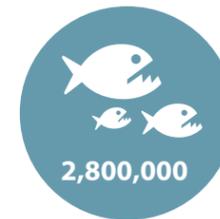


## Major impacts from the 15 communities

### Fisheries



Hectares of Marine Area Conserved



Hectares Designated as Limited Fishing Zones



Hectares Designated as No-Take Zones



Fishermen and Fisherwomen with Secured Fishing Rights

### Coastal Lands



81,000 Hectares Protected



1,800,000 Mangroves Planted



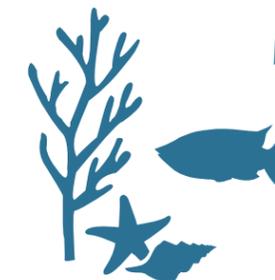
### Replication

12 of the 15 project models have been successfully replicated in other communities



### Innovative Technology

13 of the 15 communities use new technologies for their marine work including GPS, drones, underwater cameras and the Spatial Monitoring and Reporting Tool (SMART)



### Marine Restoration

92,000 Hectares of Coral Habitat Restored

54,000 Youth Engaged in Community Marine Initiatives

# Summary table: Local action delivers across global targets and goals

| Pages | Project   | Country    | Equator Prize Year | GEF-SGP Recipient | Alignment with SDGs | Alignment with Aichi Targets |
|-------|---|------------|--------------------|-------------------|---------------------|------------------------------|
| 18-19 | Fundación San Crisanto  | Mexico     | 2010               | X                 |                     |                              |
| 20-21 | Sociedades Cooperativas de Producción Pesquera de Cozumel y Vigía Chico | Mexico     | 2006               | X                 |                     |                              |
| 22-23 | Toledo Institute for Development and Environment (TIDE)                 | Belize     | 2002               | X                 |                     |                              |
| 24-25 | CoopeTárcoles   | Costa Rica | 2006               |                   |                     |                              |
| 26-27 | Comunidad Indígena de Manquemapu  | Chile      | 2014               |                   |                     |                              |

| Pages | Project  | Country    | Equator Prize Year | GEF-SGP Recipient | Alignment with SDGs | Alignment with Aichi Targets |
|-------|--|------------|--------------------|-------------------|---------------------|------------------------------|
| 28-29 | Mediterranean Conservation Society   | Turkey     | 2014               | X                 |                     |                              |
| 30-31 | Association de Gestion Intégrée des Ressources (AGIR)                                    | Morocco    | 2014               | X                 |                     |                              |
| 32-33 | Fédération Locale des GIE de Niodior (FELOGIE-Niodior)                                   | Senegal    | 2010               | X                 |                     |                              |
| 34-35 | TRY Oyster Women's Association   | The Gambia | 2012               | X                 |                     |                              |
| 36-37 | Plate-forme de Concertation pour le Développement Durable de la Baie d'Antongil (PCDDBA) | Madagascar | 2014               |                   |                     |                              |

| Pages | Project                                  | Country         | Equator Prize Year | GEF-SGP Recipient | Alignment with SDGs | Alignment with Aichi Targets |
|-------|--|-----------------|--------------------|-------------------|---------------------|------------------------------|
| 38-39 | Trowel Development Foundation            | The Philippines | 2010               |                   |                     |                              |
| 40-41 | Kelompok Peduli Lingkungan Belitung      | Indonesia       | 2015               | X                 |                     |                              |
| 42-43 | Yayasan Kerang Lestari Teluk Pemuteran   | Indonesia       | 2012               |                   |                     |                              |
| 44-45 | Tetepare Descendants' Association        | Solomon Islands | 2012               |                   |                     |                              |
| 46-47 | Fiji Locally Managed Marine Area Network | Fiji            | 2002               |                   |                     |                              |





**Cover Photo:**

A woman and her child along the coast of Andavadoaka, Madagascar. The village of Andavadoaka was recognized with the Equator Prize in 2006. Photo Credit: Blue Ventures | Garth Cripps.

**Interior Photos:**

All photos within the case study sections were provided by the Equator Prize-winning communities recognized in this publication. Photos in other sections were also provided by Equator Prize winners: The Village of Andavadoaka, Madagascar (p.1 Blue Ventures | Garth Cripps, pp. 12-13 Blue Ventures, pp. 56-57 Blue Ventures | Garth Cripps), Tetepare Descendants' Association, Solomon Islands (pp. 4-5 & p. 55), Toledo Institute for Development and Environment, Belize | Rachele Lopez (pp. 6-7), Fundación San Crisanto, Mexico (pp. 8-9), Yayasan Pengelolaan Lokal Kawasan Laut, Indonesia (pp. 10-11), Mediterranean Conservation Society, Turkey | Zafer Kizilkaya (pp. 48-49), and Fiji Locally Managed Marine Area Network, Fiji | Stacy Jupiter (p. 50).

Photo of Børge Brende, Minister of Foreign Affairs, Government of Norway (p. 6) credit: Sjøwall | Utenriksdepartementet.

**Infographics:**

Global challenges to oceans | Ink Design Publishing Solutions  
Community solutions for sustainable oceans | Ink Design Publishing Solutions  
Replicating and scaling local community action | Ink Design Publishing Solutions  
Multiple benefits of oceans | Ink Design Publishing Solutions  
Major impacts from the 15 communities | Diego Ochoa, UNDP

**Back cover photo:**

Local fishers survey the turquoise waters near Andavadoaka, a remote fishing village of just 1,200 people located on the southwest coast of Madagascar. Photo Credit: Blue Ventures | Garth Cripps.

For more information on the Equator Initiative, visit:  
[www.equatorinitiative.org](http://www.equatorinitiative.org)

For more information on the UNDP-implemented GEF Small Grants Programme, visit: <https://sgp.undp.org/>



EQUATOR  INITIATIVE  
15 YEARS



Norwegian Ministry  
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SGP The GEF  
Small Grants  
Programme

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