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Mangroves for the Future (MFF) is a unique partnerled initiative to promote investment in coastal ecosystem conservation for sustainable development. Co-chaired by IUCN and UNDP, MFF provides a platform for collaboration among the many different agencies, sectors and countries which are addressing challenges to coastal ecosystem and livelihood issues. The goal is to promote an integrated oceanwide approach to coastal management and to building the resilience of ecosystem-dependent coastal communities.

MFF builds on a history of coastal management interventions before and after the 2004 Indian Ocean tsunami. It initially focused on the countries that were worst affected by the tsunami -- India, Indonesia, Maldives, Myanmar, Seychelles, Sri Lanka and Thailand. More recently it has expanded to include Bangladesh, Cambodia, Pakistan and Viet Nam.

Mangroves are the flagship of the initiative, but MFF is inclusive of all types of coastal ecosystem, such as coral reefs, estuaries, lagoons, sandy beaches, sea grasses and wetlands.

The MFF grants facility offers small, medium and regional grants to support initiatives that provide practical, hands-on demonstrations of effective coastal management in action.

Each country manages its own MFF programme through a National Coordinating Body which includes representation from government, NGOs and the private sector.

MFF addresses priorities for long-term sustainable coastal ecosystem management which include, among others: climate change adaptation and mitigation, disaster risk reduction, promotion of ecosystem health, development of sustainable livelihoods, and active engagement of the private sector in developing sustainable business practices. The emphasis is on generating knowledge, empowering local communities and advocating for policy solutions that will support best practice in integrated coastal management.

Moving forward, MFF will increasingly focus on building resilience of ecosystem-dependent coastal communities by promoting nature based solutions and by showcasing the climate change adaptation and mitigation benefits that can be achieved with healthy mangrove forests and other types of coastal vegetation. MFF is funded by Sida, Norad, Danida and the Royal Norwegian Embassy in Thailand.

Learn more at: www.mangrovesforthefuture.org.

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## **Editorial note**

By Steen Christensen, MFF Coordinator

Welcome to the second edition of "Turning Tides", our year in review magazine for Mangroves for the Future (MFF).

MFF continues to build resilient coastal communities by implementing grant-funded projects and supporting activities that generate and share knowledge, strengthen the capacity of stakeholders, empower communities both socially and economically, and promote integrated and inclusive coastal governance.

Since 2008, a total of 345 projects have been commissioned in the 11 member countries with investment by MFF of almost US \$9 million, and confinanced and leveraged funds of more than US \$6.7 million. In the last four years alone, the programme has benefitted more than 330,000 people in target areas. More than 70% of MFF-funded projects have contributed to improving livelihoods and food security.

Gender equality has always been important rights-based issue for MFF. Almost 80% of MFF projects directly respond to women's needs and interests, and have resulted in increased women's leadership and participation in decision-making, training and skills development opportunities, improved health and individual security, and increased women's discretionary time to reinvest in other activities.

Building on this MFF has initiated a regional Gender Study with other regional partners (Southeast Asian Fisheries Development Center and the Stockholm Environment Institute) to examine gender dimensions in coastal resources management in order to improve understanding about the state of men and women in environmental decision- making and the structural challenges preventing equitable opportunities for men and women in relation to coastal and marine resources in South and Southeast Asia. The results of this ongoing study will be available in 2018 to support the advancement of gender integration in coastal resource management processes.

In 2017, MFF continued to promote inclusive and collaborative

approaches to sustainable management and protection of coastal resources. One focus area was supporting the design and implementation of governance arrangements for Marine Protected Areas. With support from MFF, Pakistan declared the Astola Island Marine Protected Area, a first for the country. In Cambodia and Bangladesh, MFF assisted government agencies with preparations for similar protected areas to be announced in 2018. In Myanmar, MFF was instrumental in the establishment of the National Coastal Resources Management Committee, a national-level decision-making body to guide and monitor coastal management policy and practice, and strengthen collaboration between stakeholders both within Myanmar and with Neighboring countries.

As Phase 3 of MFF comes to a close at the end of 2018, sustainability planning becomes increasingly important. One of the key elements to the success of MFF has been the longstanding multi-stakeholder governance mechanisms established to oversee implementation of the programme in each of the partner countries and across the region. These governance bodies facilitate regional and national knowledge sharing and dialogues for policy influence, and ensure ownership of programme direction and activities. Encouragingly, many partner countries have now identified means for these unique structures to be maintained, for example as an advisory group to government agencies or as a formal national committee to support coastal resource and marine management decision- making.

MFF continues to seek opportunities to collaborate with national, regional and international partners to share the wealth of knowledge MFF contains. In 2017, IUCN, with other global partners launched the Global Mangroves Alliance, a collective that aims to use its knowledge and networks to bring attention to mangrove-related issues, improve capacity and policy, and drive investment to increase the area of global mangrove habitat by 20% by the year 2030. MFF will use this alliance as a platform for sharing case studies, experiences, and lessons learned to inform and inspire other similar initiatives around the globe.

MFF is also responding to the increasing global recognition of the role of mangroves and coastal ecosystems in climate change mitigation approaches. Despite their significant potential to capture and store carbon, up to five times more than other tropical forests, mangroves are not consistently included in global community responses such as REDD+. MFF has now developed a component of work to contribute to resolving policy inefficiencies, fill knowledge gaps, and demonstrate practical measures for the inclusion of mangroves in REDD+ across Asia. A renewed focus on including mangroves in climate change responses will also contribute to securing the many other goods and services that mangroves provide to support ecosystem-dependent coastal communities.

As MFF moves forward, there will be continued emphasis on collating, sharing and applying best practices and lessons learned in order to efficiently support country responses to emerging issues for coastal resource management. As always, our efforts will build on the key hallmarks of MFF; it's unique governance structures, partnership-based approach, and on-the-ground presence to support grassroots development and local to national policy influence.

We hope that you enjoy reading more about MFF in this publication describing some of our main achievements in 2017.

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## **People of MFF**

Established in August 2007 and headquartered in Bangkok, Thailand, the MFF Regional Secretariat is responsible for programme development and coordination to ensure the smooth running of the initiative in close consultation with MFF member countries and institutional partner representatives.

Working with members of the MFF secretariat are the MFF National Coordinators (NCs), who oversee the implementation of the programme at the national level. NCs provide support to the National Coordinating Body (NCB) – made up of representatives of civil society organisations, government agencies and the private sector – and in particular provide strategic advice in relation to many aspects of the programme's priority areas.

The team would like to thank MFF's core institutional partners – IUCN, UNDP, UN Environment, Wetlands International, the ASEAN Centre for Biodiversity, Norad, Sida, Danida and the Royal Norwegian Embassy – for their long-term commitment to the initiative. Funding partners deserve special appreciation for their generous support of MFF's work on behalf of the millions of people whose livelihoods and well-being depend on coastal resources.

MFF would also like to thank all of the communities, NCB members and other stakeholders who have participated in the programme to date. Without their care and concern for our coastal environment, the positive long-term changes we see today would not have been possible.



# Working together to build MPAs for long-term marine resources management

ur oceans, coasts and wetlands are crucial for our survival. Mangrove forests, for example, sequester massive amounts of carbon dioxide from the atmosphere and protect coastal communities from cyclone storm surges, while coastal wetlands and coral reefs provide breeding and nesting grounds for hundreds of animal and plant species. Human populations rely heavily on these ecosystems for subsistence – for fish, crabs and molluscs; for mangrove wood that fuels fires and

for mangrove leaves and fruits that yield marketable products; for shelter from sun and storms.

Establishing Marine Protected Areas (MPAs) around biologically diverse hotspots is one approach to protecting these vital ecosystems as they come increasingly under threat. When the boundaries of protected areas are delineated through stakeholder consultation and consensus, encroachment becomes less likely and enforcement becomes more effective.

When local communities are involved in the governance and protection of their ecosystems, much of the pressure on both nature and governments can be relieved.

MFF started as a disaster response programme working in the six countries most affected by the devastating 2004 Indian Ocean Tsunami, and has now evolved into a strategic programme building resilience in ecosystem-dependent coastal communities in 11 member countries. Recognising the importance of protecting

biologically diverse hotspots, MFF is assisting member countries to establish MPAs, including Locally-Managed Marine Areas (LMMAs).

Although all member countries are at different stages in developing their conservation systems and therefore have varying requirements, the need to improve management effectiveness is fairly consistent across the board. The programme believes it is a pressing necessity to improve climate change resilience and protect buffer zones, effectively manage ecotourism, identify sustainable financing mechanisms and, in order to ensure that the results will be equitable and sustainable, to accomplish these goals using a participatory management approach.

MFF is currently supporting Viet Nam's Cu Lao Cham Island, an MPA nested within the UNESCO Biosphere Reserve, to improve its management effectiveness. Since the island was declared an MPA in 2005, the site has become a popular tourist destination and local livelihoods have become highly diversified. Land value has also increased with the growth of investor interest, all of which is putting pressure on coastal resources and social relations within local communities. To further strengthen the MPA's resilience, IUCN, MFF and Darren Cameron from the Great Barrier Reef Marine Park Authority facilitated an exercise at the end of April to examine the current successes of the MPA and develop a road map for revising the MPA, which will be implemented over the next two years.

In Myanmar, MFF collaborated with Fauna and Flora International to bring stakeholders from Pyinbugyi Village Tract to visit an LMMA in the villages of Done Pale Aw and Lin Lun. This allowed local marine area managers to exchange best practices, providing the visitors from Pyinbugyi Village with ideas on how they can establish their own LMMA.

Over in South Asia, in Bangladesh, MFF is helping to identify the root cause of conflict and engage local communities in the stewardship of their resources. Nijhum Dwip – a park that acts as an important breeding ground for the hilsa and is home to the Critically Endangered spoon-billed sandpiper – is losing tree canopy as a result of its borders being hotly contested.



Believing that local communities are the key to cooling the conflict and ensuring the resilience of wildlife, park and people, MFF is evaluating the park using the MFF Resilience Analysis Platform (RAP). RAP provides evaluators with a framework to pinpoint what is weakening the resilience of social and ecological systems - border conflict, for instance – so that these gaps can be filled and both systems thereby collaboration with the Pakistan Navy, fundamentally strengthened.

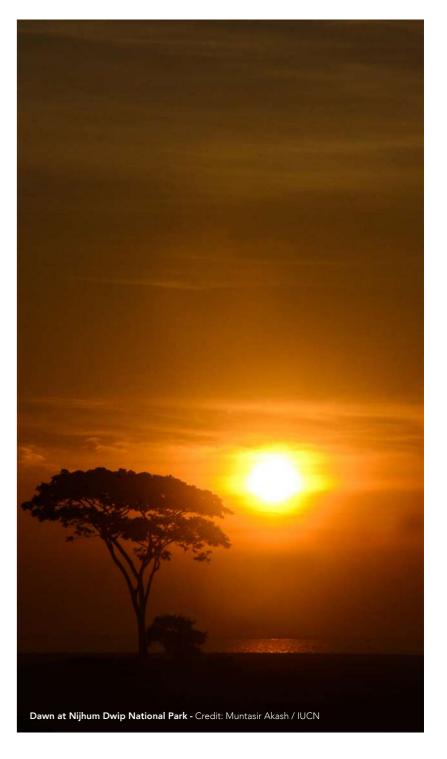
MFF is also working closely with WWF situational analysis.

and the Pakistan Ministry of Climate Change to establish Churna Island, Miani Hor and Astola Island as MPAs. At the IUCN World Conservation Congress last September, a motion was adopted to declare Astola Island an MPA. In the following months, MFF Pakistan conducted feasibility assessments of Churna Island and Miani Hor and, in organised a field visit for working group members to Astola Island to undertake a The next steps, to be undertaken by IUCN and MFF, will be to ensure that local communities and grassroots stakeholders are included in the governance and decision-making processes - particularly on Astola Island, which is shaping up to be the first MPA in Pakistan.

Decision-makers at community, civil society and government levels, motivated to safeguard the livelihoods of present and future generations, have recognised the usefulness of tools provided by MFF,

and are using them to achieve their aims. MFF looks forward to providing continued support in the establishment of MPAs and LMMAs for effective management of marine resources and protection of rights of local communities.

This piece was published in April 2017. Astola Island was officially declared an MPA two months later, in June 2017.





Many women involved in the project, like Jameela Ali, now use the knowledge they gained from project trainings to grow their own mini-gardens. Jameela now owns a pumpkin plot, in addition to growing lettuce and guava.

#### Reduce, Reuse, Recycle

The project has also linked up with the pre-existing waste management project. Compost made at the Waste Management Centre is now used as soil conditioner at the farm. A normal package of compost costs only MVR 5 (US\$ 0.32).

Before composting was introduced by the waste management centre, the community was using imported cow manure to grow their plants.

"We used to use cow manure to grow our crops, but the new compost we have is much better," says Waseema Hassan, another project beneficiary. "It's much cheaper because we get it from the island, so we can also use it for the plants in our backyards, and it causes a lot fewer problems. Cow manure caused root diseases and weeds."

### For peat's sake

With particularly scarce land resources, the women of Ukulhas cannot resort to traditional farming methods practiced on other islands, and instead use methods such as fertigation, controlled irrigation, shade houses and growing in coco-peat bags.

Planting the crops in coco-peat instead of soil is not only better for the plants, but also prevents fertiliser run-off and groundwater contamination.

The Ukulhas Women's Development Committee now aims to turn the coconut husks that are readily available on the island into coco-peat so they do not have to source it elsewhere. They see this as a good way to utilise the piles of coconut husks gathered at the waste management centre. They are now looking into getting a machine from nearby Sri Lanka to separate the peat from the fibre.

The enthusiasm and dedication of thirty women in Ukulhas has shown that the island could take the lead in an innovative model of farming, much as the island had previously demonstrated that waste could be managed at an island level.

## Waste not

islands in the Maldives -Faresmaathoda and Ukulhas – have embarked on programmes that are improving lives and setting standards for other islands in the country.

The island of Ukulhas, which lies around 70km west of the capital, Malé, has become renowned over the past five years as a model island for its waste management practices. In 2011, it became the first island in the Maldives to systematically manage waste at a community level. On the heels of its success, several islands have started Along with thirty women from Ukulhas

following what is now referred to as the 'Ukulhas model' of managing waste. One of these is the island of Faresmaathoda, 400km south of Malé.

Nashwa Aminath, a young woman from Ukulhas, envisions a future in which Ukulhas is known for more than just waste management. Faresmaathoda, meanwhile, aims not only to replicate, but to advance the Ukulhas model.

#### **Grow together**

Women's Development Committee, Nashwa is heading a new project in the hope that the island can once again take the lead in sustainable development, this time through an innovative method

The Women's Development Committee won a medium grant from MFF to undertake this initiative. In early 2016, the island community set up two shade houses to grow cucumbers and sweet melons, which are sold locally, as well as in the Malé market.

Homegrown lettuce - a rare sight in the Maldives - Credit: MFF Maldives







Nashwa Aminath (left) shows colleagues her plans for innovative farming on Ukulhas - Credit: MFF Maldives

#### Inspired

Meanwhile, a film studio called Red Productions used a small grant from MFF to replicate and advance the Ukulhas model on the island of Faresmaathoda.

The island councilors reopened a waste management centre that had been abandoned, and made changes to make it more functional, including enclosing the machinery and raising the walls of the storage centre to prevent flooding and damage from rain – a change that has subsequently been made to national plans for waste management centres.

The island residents agreed to pay a small fee for waste collection right from their doorsteps. A pick-up truck makes a stop at each house every morning to collect household waste, which is then separated into waste category containers and placed next to the number given to each household. At the waste management centre, metal, glass and plastic are kept separate, while biodegradable waste is used to make compost. The compost is then sold off to generate revenue for the centre's upkeep.

#### Creative destruction

The island council, together with Red Productions and MFF, are now experimenting with different ways of dealing with the waste. They found that mixing seaweed with leaf litter halved the time of composting, reduced the amount of labour

required, and saved space for additional compost piles. The seaweed compost is also higher in nutrients, and can attract a higher price.

The council is also being creative with reuse of waste. An electric compost sieve not only saves time and manpower, but is run by a motor salvaged from a discarded machine.

Within the course of just a year, the project has transformed the island. After piloting the project, the councilors initiated an island clean-up to clear traditional dumpsites, making way for exciting new possibilities.

#### Transformation

"Before the project, the closest way out of the woods (to the beach) was a waste dumpsite. These outer roads used to be dumpsites before we opened the centre and cleaned up the island," says Mohamed Sobah of the Faresmaathoda Island Council.

The island is also home to a small *kulhi*, or freshwater lake. According to Mariyam Zuhaira, who lives nearby, "the pond was inaccessible due to the loads of waste surrounding it." Now, children and young people gather around the pond in the evening, lounging around in *joalifathi* (traditional Maldivian recliner benches), playing guitar and socialising with their friends.

There are, however, still challenges to overcome. "Our biggest worry right now is finding a way to cover the deficit of the operational costs of the centre," says Abdulla Saeed, President of the Faresmaathoda Council. "Funds need to be allocated to islands in the initial project stages. We need financial assistance to experiment, to improve and to procure additional machinery."





## Safe haven in safe hands

## **Educators rekindling interest in Maldivian mangroves**

The common perception of the Maldives may be of expensive resorts on palm-fringed atolls, but the islands are also home to mangrove forests. Maldivians once enjoyed a healthy relationship with mangroves, which provide services intrinsic to life in the islands. The fruits of mangroves, for example, were popular foods and dietary staples in some areas, while the trees themselves provided firewood and timber. "We not only used wood from the mangroves to build our boats, we also used to fish among them when the seas were rough during the rainy season and it was too dangerous to take to the open water," says Abdul Raheem Ibrahim, Director of the Huraa Island Council.



### Seeing change

However, with changing times – and lifestyles – communities came to rely less on mangroves. In the meantime, land scarcity took a toll on mangrove wetlands, large portions of which were filled in to build airports, houses and other infrastructure. Before long, the remaining forests became choked with trash.

"The amount of trash in the mangroves was disturbing. It is heartbreaking to see such an important ecosystem neglected," says Fathimath Shadiya, a lecturer at the Maldivian National University (MNU).

After visiting Huraa Island in the Malé Atoll in 2014, Fathimath and her colleague, Aminath Shazly, were inspired to implement a project, supported by MFF, to shed light on the economic value of mangroves.

## **Local champions**

The goal of the mangrove valuation project was to address the crux of the problem: the lack of appreciation for

and misinformation about the true value of mangroves. Through the project, Fathimath's students had the chance to gain real-world experience and put into practice what they had studied in the classroom. The team also published a booklet, to be used as a guidebook by locals and tourists, with information and illustrations about the different fauna and flora in the mangrove forests.

"We now have a lot of information and new knowledge on how to find alternative uses for the mangrove ecosystem," says Ahmed Habeeb, a local guesthouse operator. "The mangroves' serene beauty is something which can be enjoyed by tourists who come to visit the island. These guidebooks could also come in handy in designing tours."

In addition to producing the guidebook and the valuation study, the project has also been able to positively impact the thinking of people at many different levels and enhance their knowledge of the importance of preserving these ecosystems.

Members of local councils, for example,

now take a proactive role in conserving the mangroves and promoting them as ecotourism sites.

### Seeing the forest for the trees

One student member of Shadiya's team, Ahmed Fizal, is bringing what he learned about mangroves' involvement in disaster risk reduction to his job at the National Disaster Management Centre.

"While conducting the surveys, we realised the potential of mangroves for disaster risk management, as they are able to absorb floodwater from torrential rain and sea surges," he says. "I was convinced of the role of ecological systems in building resilience and mitigating disasters long before I joined the National Disaster Management Centre. After seeing the Huraa Island mangroves for myself, I am more certain than ever that protecting these ecosystems is crucial."

Story produced by MFF Maldives and UNDP Maldives in collaboration with IUCN Asia.



Students at Klong Manao School stand in front of an informational poster on the '7 Rs' and hold up a banner explaining how to dispose of different types of waste - Credit: Siriporn Sriaram – MFF/IUCN

## International Youth Day: Sowing the seeds for a green future

In a photo story for International Youth Day on 12
August 2017, MFF highlighted the contributions of young people – from toddlers to young adults – who are standing up for nature.

### Tackling trash In Thailand

In Trat Province, Thailand, a 60,000 tonne pile of waste dubbed the "Golden Mountain" is a prominent feature of the Mairood sub-district.

With support from MFF, two community-based waste management projects have empowered over 700 schoolchildren to bring home waste sorting and recycling best practices.

The '7 Rs' - 'Reduce,' 'Reuse,' 'Recycle,' 'Rethink,' 'Reject,' 'Repair' and 'Return' - have transformed the way families in Mairood interact with consumption habits and waste management.

The programme teaches students that waste is destructive and hazardous. It also teaches them that it can be effectively neutralised and even used to save and earn money. Students bring this knowledge home and are also encouraged to participate in monthly community meetings where waste management is often discussed.

(For more information, visit mangrovesforthefuture.org and read the news story More effective waste management through engaged communities.)

#### Investing in Viet Nam's future

With the increasing number of decorative plant species being introduced to Hoi An, native plants and traditional gardening techniques are more important than ever. Through an MFF project, students from eight schools in Hoi An are learning the value of organic agriculture, native flora – such as traditional medicinal herbs – and food safety. They're also getting an opportunity to practice what they've learned and bring biodiversity back to their city.

### I Learn, I Play, I Am Safe

Another MFF project in Hoi An is tackling climate change and natural disaster resilience in at-risk communes like Cam Kim.

'Green living reading corners' give young children the opportunity to read about climate change and understand how it affects them. They also learn how to live more sustainably by saving water and energy, and reducing, reusing and recycling waste. These students can then bring this knowledge home and share it with family and friends.



These students have cleaned their milk cartons and are hanging them out to dry. The cartons will later be recycled and used to build shelter for victims of natural disasters. Credit: Siriporn Sriaram – MEF/ILICN



A student at Ban Klong Manao Elementary School uses labeled bins to dispose of waste - Credit: Siriporn Sriaram - MFF / IUCN



Students at Huynh Thi Luu School, Hoi An, learn about the uses o native plant species - Credit: Tran Viet Duy – MFF



The Green Living Corner, Thanh Ha Ceramic Village, is the perfect place for kids to read and learn - Credit: Nguyen Van Nguyen – MFF

### India's young leaders

Students in Rajnagar, a small town inside Odisha's Bhitarkanika Wildlife Sanctuary, are getting the chance to think critically about the environment around them and have their thoughts and opinions heard.

One of the most disaster-prone areas in India, Bhitarkanika is feeling the effects of climate change as cyclones and violent storm surges threaten to submerge it entirely. The area is also becoming choked with litter – especially plastic bags – as most residents are unaware of the hazards of waste.

Teams of students called the Green Rhinos are taught how to tackle these challenges through an MFF project that encourages creative thinking and non-traditional problem solving – like making over 3,000 reusable shopping bags out of their fathers' old trousers.

Green Rhino groups have also been working closely with their local governments to mitigate disaster risk by planting mangroves along riversides – 1,800 so far – and have been instrumental in teaching their communities the benefits of conserving and planting trees, composting for fertiliser and reducing plastic use.

### Tourism training in Sri Lanka

Traditional livelihoods in Mannar Province in Sri Lanka are mostly restricted to fishing and farming, but the possibility of more tourism in the beautiful and biodiverse Gulf of Mannar provides potential for local economic growth. This would not only help people in the area, but also reduce pressure on their precious natural resources.

To help youth in Mannar take advantage of this promising prospect, MFF is working with the Green Movement of Sri Lanka (GMSL) and the Sri Lanka Tourism Development Authority to help train tour guides – some as young as 18 – in Sinhalese and English language and skills like basic first aid, birdwatching techniques, snorkeling and tour management.

The training programme, which took place over the course of three months, not only gave 30 young men and women the skills to build the area's reputation as a historically and ecologically significant destination, but also gave them direct access to jobs and immediate opportunities to apply what they have learned.

(For more information on tourism training in Sri Lanka, visit mangrovesforthefuture.org and read the news story Youths unite for sustainable tourism in Sri Lanka.)







# When voices are heard in Cu Lao Cham Marine Protected Area

With a total area of 3.7 hectares (roughly the size of 5 football pitches), the coastline in front and the famous Hai Tang pagoda in back, the Pagoda Field in Cu Lao Cham, Viet Nam is a place of great natural beauty and of religious and historical value. The area is part of the Cu Lao Cham Marine Protected Area (MPA), which was recognised by UNESCO as a World Biosphere reserve in 2009.

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The fields were implementing a project that aims to enhance the capacity

nce used for rice cultivation, the fields were abandoned due to water scarcity and rapid population expansion. Several businesses expressed interest in developing the area to accommodate the 1,700 tourists the island receives per day, a figure that is only expected to grow.

However, when it comes to economic development, environmental protection is just as important. If plans for the area are not sustainable, the huge volume of tourists could destroy the natural value of the island. The government therefore decided that Pagoda Field would be converted into a park, though this plan must also be carried out wisely, so as to avoid conflict between residents and authorities.

With support from Mangroves for the Future (MFF)'s small grant facility, Da Nang Architecture University is

implementing a project that aims to enhance the capacity of local communities to participate in the planning process of Pagoda Field Park. As planning processes in the country are mostly undertaken by the government, this approach is considered to be quite innovative.

"In the beginning, local people seemed hesitant to participate in the process," says Phan Trang, Project Assistant at Danang Architecture University. "However, after a number of trainings, surveys and meetings, local people seemed more interested. In the end, about 100 members became directly involved in planning the Pagoda Field. We felt proud that we were able to contribute to the future of the island."

After eight months of implementation, 500 villagers learned about the planning process of the island and the park and around 20 local villagers became key members, providing comments and feedback on behalf of local communities. 50%

of households in the island were also surveyed on their opinions about the development plan for the park.

Taking into account the feedback of local communities, a planning design for Pagoda Field was developed towards the end of 2016. The plan focuses on promoting the value of the nature and history of Cu Lao Cham, with an emphasis on preserving the huge grass fields, reopening the streams and creating experimental and organic vegetable gardens. The park would also offer a playground for children and a relaxation area for older people, along with other facilities.

The planning dossier was submitted in February 2017 to the Hoi An City People's Committee (CPC) for approval and received positive feedback from the city leader. According to the Vice Chairman, Nguyen The Hung, "many proposals for Pagoda Field Park were developed in the past, but this is the first one to receive full support from the local government and communities." In 2018, the Hoi An CPC will allocate New Rural Development funds to implement the approved plan.

"Other places in Quang Nam Province, such as Cam Thanh and Hoi An, could also benefit from participatory planning processes," said Tran Anh, Deputy Secretary of the CPC. "Any development plan will impact local people, so they should have the right to have their voices heard."

This story was contributed by Thuy Anh Nguyen, Communications and Outreach Officer for Vietnam. Thuy Anh drafted the piece following the IUCN Asia Strategic Communications for Conservation Workshop in Bangkok, Thailand, which took place in July.

# More effective waste management through engaged communities

To most, it's just a giant landfill – holding approximately 60,000 tonnes of waste. But to some of the locals of Trat province, the Had Ploy Dang dumping ground, located in the Mairood Sub-district, is known as the 'golden mountain'. Why? Because, according to Mr Surasak Intaraprasert, Chairperson of Mairood Tambon Administrative Organisation, "waste is gold."

Pordering Cambodia along the Cardamom Mountains, Trat province in Thailand comprises a number of islands with beautiful beaches and luscious coral reefs. Because it sits on a coastline, the province is constantly at risk of being polluted by waste that is dumped into the ocean on a daily basis.

To tackle the growing waste problem, MFF supported two community-based waste management projects in the province through its Small Grants facility. These projects have so far benefitted almost 1,500 households and over 700 students in Mairood – significantly more than the 600 households and 600 students initially identified as beneficiaries. In addition to the idea that engaging the community in waste management can be part of the solution to the problem, the practice also provides a possibility of extra income for the community through recycling, an opportunity which the project initially used to incentivise participation among adult community members.

Through a newly-established learning centre for waste sorting, awareness-raising activities, capacity building workshops and peer education, students and teachers at four schools in Trat are learning about sustainable waste management practices. As a majority of the population in the area depends on mangrove wetlands for fishery and agriculture, students learn how critical it is that these areas are sustainably managed and not taken over by waste.

Besides learning about the usual 3 'Rs' – 'Reduce', 'Reuse' and 'Recycle' – students in Mairood also learn about 'Rethink', 'Repair', 'Reject' and 'Return'. The '7 Rs' intend to remind students to manage their production and consumption in a responsible manner.

"Students learn about the different types of waste, and how to separate them. They know how to separate plastic straws from drink containers made out of paper, how to make plant containers by recycling plastic bottles and how to turn organic waste into compost," said Ms. Kanchaporn Panphet, Principal of Klong Manao school.

In one of the schools, a plant nursery was set-up to encourage students to grow plants in soil mixed with organic waste compost in their recycled plastic bottle flowerpots.

One of the projects has also connected the communities with a small enterprise called Wongpanit that buys waste from communities to sell to a larger waste recycling company. This allows both the communities and the company to generate income, while reducing the amount of waste in the dumping ground.

The community-based waste-management projects in Trat do not require high-end technology, yet have proven to be effective, as income-generating waste-management systems can be maintained by participating communities.

"We encourage community members to take part – by becoming franchisees, and buying waste from people. There is good money to be made, as we can sell recyclable waste at quite a high price to the large waste recycling company," said Mrs. Suree Phongsai, CEO of Wongpanit.

Waste management is something that the communities in Mairood take seriously, with the topic being brought up every month at village meetings. At these meetings, schools are also encouraged to participate and share experiences.

"Waste is a global problem, not just a Thailand or Mairood problem. I have been village chief for many years and I find this problem to be one of the most challenging to manage," said Ms. Natsini Intaraprasert, Chief of Mairood sub-district.

"We wanted to work with the villagers to find a solution so we asked them what they needed. And what they needed was projects like this. If an individual produces 1 kg of waste and can reuse and reduce most of it, leaving only 20% to waste, it makes a big difference. The MFF project actually helps provincial authorities achieve their goals in reducing waste disposal. The ultimate goal here," she added, "is to get every household to manage waste by themselves and give only 20% to the government to deal with."

On March 27, almost 100 participants – members of Bangkokbased organisations and stakeholders from Trat – came together at a Lessons Learned Sharing Forum to identify key takeaways from the nine MFF Phase III projects that were implemented in Trat (including the two on waste management).

The lessons learned from the waste management projects were threefold: that regular communication of key messages (through media such as the provincial radio station) and the establishment of an intra-community mutual monitoring and reporting system would help develop sustainable behaviours; that the harmful

effect of waste quantity was still not taken into consideration by community members when it came to otherwise benign organic waste; and that waste buyers such as Wongpanit were key to encouraging waste sorting in households.

Participants also proposed policies that would facilitate conservation activities in their communities. Key measures included a collaboration mechanism for the Tambon Administrative Authority and schools to transfer waste management knowledge from learning centres and school children to households and parents; a collaboration mechanism for information and knowledge to be transferred among community members and sub-districts; and the development and enforcement of clear waste management policy.

Most importantly, the project's key stakeholders identified the need for an individual or a group to act as a liaison between the communities and the government, to resolve issues for which the community itself does not yet have the capacity.

Elementary school students in Mairood hang rinsed milk cartons to dry before recycling - Credit: Siriporn Sriaram/MFF Thailand





## Improving waste management in Toul Toueng Commune, Cambodia

To address a growing waste management problem in Cambodia, Mangroves for the Future (MFF) funded a project implemented by the Center for Biodiversity Conservation (CBC) of the Royal University of Phnom Penh that has helped reduce the proliferation of solid waste and mitigate marine ecosystem pollution in Toul Toeteung Commune, near the coastal city of Sihanoukville.

ithout proper disposal and treatment, contaminants from solid waste can leach into soils and nearby water sources. These contaminants often find their way into freshwater and marine ecosystems, threatening critical food and water resources as well as the health and biodiversity of these ecosystems.

The city of Sihanoukville, a growing tourist destination on Cambodia's coast, only has a single landfill and no facilities for processing waste or recycling that can handle the growing waste management demand.

Due to a lack of proper waste disposal awareness or mechanisms for waste removal, people from the Toul Toeteung commune often dispose of waste in the canals, which is then washed down stream. "Most waste that you find in Chompou Khmao Village comes from upstream residents and the Prey Nob market. They dispose of their waste into the canal and it ends up here," explains a local resident from the commune. "We

cannot use the water and villagers suffer a lot from this waste."

In 2016, the CBC team held discussions with commune community members and local officials to raise awareness about the benefits of reducing waste. Through these discussions, the decision was made to install signs throughout the commune in order to raise awareness about the detrimental effects of improper waste disposal.

Mr Sophea, a project officer at CBC, emphasised that "an individual person can contribute to reducing waste by purchasing products that are not excessively packaged and buying only necessary products."

Efforts to reduce waste and re-use products that would otherwise be thrown out will be combined with the operation of a waste incinerator, provided by CBC, to reduce the plethora of solid waste making its way into the waterways and nearby marine ecosystems. Even though

waste incinerators can have negative impacts on air quality and carbon emissions, CBC decided to provide the incinerator after community members agreed to adhere to a strict set of recommendations to minimise those impacts.

CBC also conducted a workshop in September 2016 to teach locals how to use organic waste for creating nutrient-rich compost that can help improve agricultural yields. "This is the first time [I have had training on waste management] and it is interesting to learn the ways that we can benefit from our waste by practising composting and recycling," remarked Ms You Samat, a member of the commune council.

During this process, CBC has found that through community cooperation, raising awareness on waste disposal hazards and changing daily behaviours, community members can benefit from an increased quality of life, improved water quality and healthier ecosystems at minimal cost.

# Women as agents of change

In line with the United Nations Sustainable Development Goal 5, MFF recognises that gender equality is a fundamental aspect of conservation and sustainable development, and includes the empowerment of women and girls as a key component of its programme.

# **Gender equality: A game changer for nature**

This opinion editorial was written by Aban Marker Kabraji, Regional Director for IUCN Asia and Director of IUCN's Asia-Oceania Regional Hub. It was published on International Women's Day in numerous media outlets across the region including Al Jazeera, Thomson Reuters Foundation News, The Daily Sun (Bangladesh), Dawn (Pakistan), Mihaaru (Maldives) and Jakarta Globe (Indonesia).

n Fiyoaree, Maldives, Leena wakes up every day just a little before sunrise for her morning prayer. She prepares breakfast for her family and gets her two children, 9-year-old Fathimah and 5-year-old Ahmed, ready for school, which starts at 7:30 a.m.

Once she returns home, she tidies her house and takes care of the laundry, before she heads out to her parents' farm, located 1.5 km away, to help water their vegetables. Approximately two hours later, Leena returns home to prepare lunch for her children.

Throughout the day, she juggles other household duties, including tending to her 4-month-old baby, Moan, while her husband, a fisherman, is out at sea.

At night, after she tucks her children in, Leena spends three hours making mats out of reeds that grow in nearby marshlands and wetlands.

Along with 30 other women in her village, 30-year-old Leena sells these multi-coloured woven mats to a cooperative in the capital, Malé. The co-op then sells the handicrafts to high-end tourist resorts. If the women weave on a regular basis, they can earn up to MVR 1,000 (US \$65) per month from the activity – which amounts to approximately 30% additional income to the average household in Fiyoaree.

Like many other women in her village, and many parts of the world, Leena is the primary caregiver for the family, while her husband goes out to work. Most of the time, these women also take on the responsibility of collecting water and firewood, as well as growing and harvesting crops.

Even though the past decades have seen huge changes for women in many communities in terms of employment, there are still many women who simply cannot have a job away from their villages because of their duties at home. This is why home or village-based income-generating opportunities, such as Leena's weaving, are so important.



### Women key to conservation

Leena is a beneficiary of a regional coastal conservation initiative spanning 11 countries in Asia and the Indian Ocean that aims to empower women economically, in Leena's case by being trained in the traditional Maldivian art of *Thun'du Kunaa* weaving.

Implemented through MFF, this income-generating initiative also helps women better understand the value of wetlands and the fundamentally important services they provide, such as the supply of reeds for their weaving.

With their traditional knowledge of sustainability at the household and community level, women can play a critical role in the conservation of natural resources. Coupled with the fact that they are instrumental in running the household, they also hold the key to positively influencing and shaping their husbands' and children's views about the importance of safeguarding nature. They, in turn, then go on to positively influence their peers, creating ripples of change that spread across the community.

Empowered with more knowledge on the sustainable use of natural resources, these women can become strong advocates for nature-based approaches to sustainable development. Numerous studies have indicated that women also play a crucial part in building resilience: from ensuring that fragile ecosystems are protected, to helping their families become more resilient in the face of natural disasters.

Additionally, the United Nations 2030 Agenda for Sustainable Development has made it crystal clear that a commitment to gender equality is necessary to secure a better future for all. This is explicitly evidenced in Sustainable Development Goal 5: "Achieve gender equality and empower all women and girls."

Unfortunately, in many nations, gender-based discrimination and inequality are still deeply woven into the social fabric. And despite the fact that women play such a critical role in the conservation of ecosystems, their contribution is often overlooked, undervalued, and sadly, undermined. The recent World Economic Forum predicts that the gender gap won't close entirely until 2186.

### Growth threatening eco systems

Though Asia's unprecedented economic growth has brought many benefits to its communities through higher incomes and a better quality of life, it has also exacerbated threats to the region's ecosystems through natural habitat degradation and biodiversity loss, due to commercial, agricultural and industrial activity.





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A young girl from Mogan Village, Surin Island, Thailand - Credit: Ana Grillo / MFF

Rates of mangrove, wetland and forest loss in Asia are among the highest in the world; 95% of Southeast Asian coral reefs are at risk; and almost 1,400 plants and animals in the region are listed as Critically Endangered and Endangered.

All is not lost, though. Thankfully, this is the 21st century, and the vital role of gender equality, equity and inclusion in conservation and environmental protection has been receiving increasing attention from both the scientific and political community. A large number of international organisations have been relentlessly advocating for the empowerment of women, and for them to take real ownership of the ecosystems on which they rely.

For instance, IUCN's gender policy calls for the promotion of equity and equality as a crucial factor for environmental sustainability, and as an integral part of all conservation efforts.

Since its inception, 38% of MFF's projects have directly

contributed to addressing women's needs. Through the provision of education and skills development training to women and their families, more than 80% of these projects resulted in measurable increases in women's incomes, and went hand-in-hand with improved management of natural resources.

This year's theme for International Women's Day is 'Be bold for change.'

In the Maldives, women like Leena are leading the way. By fruitfully engaging in a sustainable income-generating activity, Leena encourages other women to take the leap and do the same

As increasing numbers of women are empowered through conservation projects that systemically mainstream gender equality into programmatic outcomes, collective efforts in sustainable development become more impactful, and can indeed secure a better future for all.

# Coconut handicrafts and dressmaking empower women while protecting mangroves

In Iranawila village in Puttalam, a district situated on the west coast of Sri Lanka, 90% of the population relies on fishing for their livelihoods. In the past decade, villagers have been cutting and selling mangroves trees for the construction of dwellings, for firewood and for making broomsticks, to earn additional income for their families.

The destruction of the mangrove forests – which play a vital role in protecting nursery habitats for fish – threatens the livelihoods of the local communities. And although cutting mangroves in that area is illegal, the law is not regularly enforced.

Realising a need to provide more livelihood options to protect the mangroves, Jayaseeli Gallage, Chairperson of Mihikatha Environmental Organization, took action.

After seeing a call for proposals from MFF in the newspaper, Jayaseeli worked relentlessly to submit a concept note for an alternative livelihoods project. Her concept note was shortlisted and she was subsequently invited to attend a training programme on how to develop a full proposal.

Before attending the training, Jayaseeli spoke to several fisherwomen to find out which income-generating activities they were interested in. With this new knowledge, Jayaseeli attended the training programme, developed the proposal and successfully secured funding for an alternative livelihood project.

The project, which was implemented from July 2011 to April 2012, trained 20 women in making handicrafts using the stiff mid-ribs of coconut leaves called coconut *ekels*. They attended a total of four training programmes on making waste paper baskets, shopping bags, office bags and flower vases. Nearby coconut estates provided the coconut ekels for free while the project gave trainees the tools required to make the items.

"The average additional income I make per month from selling ekel products is between LKR 2,500 and 4,000 (US \$16-26). My family income has increased by 30 to 50%," said

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Priyadarshini Costa, a coconut ekel handicraft producer, during a project evaluation trip conducted by Jayaseeli and MFF Sri

Another 20 women were trained in dressmaking, where they learned how to sew baby shirts, blouses and A-line dresses. They were provided with basic equipment such as measuring tape, tracing wheels, scissors and tracing paper.

The additional income generated from made-to-order dresses ranged from LKR 10,000 to 20,000 (US \$65-130).

Four of the women were even taking large orders of school uniforms and dresses for the festive season. They also received regular orders from a nearby children's orphanage.

"Nearly 80% of the project's trainees were self-employed. They were selling their coconut ekel handicrafts at church festivals and provincial fairs. Established dressmakers were taking orders to make wedding dresses and sarees," said Jayaseeli proudly, reflecting on the 2014 evaluation of the project.

"When I visited the women recently, I found that many of their businesses had expanded. Many of them have now set up a home work space and office, which works perfectly as they did not want to be away from their families and neglect household chores," said Jayaseeli in a recent interview with IUCN Sri Lanka.

"These income-generating skills, the extra income, and the awareness programmes on the importance of mangroves motivated many people to stop cutting down mangrove trees," added Jayaseeli.

This story was contributed by Kumudini Ekaratne, Senior Programme Officer for IUCN Sri Lanka. Kumudini drafted the piece following the IUCN Asia Strategic Communications for Conservation Workshop in Bangkok, Thailand, which took place in July 2017.

# Alternative livelihoods for displaced Sri Lankans

The northern province of Manalkadu, Sri Lanka, has seen hard times. Between 1980 and 2009, a civil war left over 60,000 people dead, 20,000 missing and 300,000 without homes. The province suffered another setback in 2004 when the Indian Ocean Tsunami struck and displaced over 5,000 families.

While hundreds and thousands struggled to recover from the tsunami disaster, it was only after the war ended in 2009 that communities could really reorganise their lives and regain a sense of normality.

Mary Matline, a mother of three, was one of the survivors. During the war, she was displaced from her village and had to

take refuge in Vavuniya town with her family. During a cease-fire, she travelled to Manalkadu, a coastal village situated in the resource-rich Jaffna district, where she lives today.

The majority of Manalkadu residents are involved in fisheries, crop cultivation and livestock farming. Due to water shortages and limited household income, these livelihood activities cannot be carried out on a large scale. Unregulated and uncontrolled activities such as sand mining, cutting of casuarina and mangrove forests, and illegal fishing are also symptoms of insufficient and unstable income generation options.

Mary (far left) sitting with other community members at a session to raise awareness about climate change - Credit: MFF Sri Lanka





Mary Matline being interviewed during an MFF visit - Credit: MFF Sri Lanka

Through an MFF-funded project, local NGO Aruthal Sri Lanka introduced alternate livelihood options to 71 selected families, targeting the most disadvantaged families with irregular incomes.

In 2015, Mary's husband, the main breadwinner of the family, fell ill after an accident and could no longer work. To contribute to the household income, Mary prepared food for fishermen in the area. Initially, Mary sold *madevadai* and *vaipan* (types of banana bread), but the income this generated was not enough to cover household needs. Even though Mary was determined to expand her business, she had no one to support her. This changed when she was selected to participate in the project.

With the assistance of MFF, Mary was able to prepare meals for villagers at a larger scale. At first, Mary's husband and son were not supportive of her new business, but she was able to convince her family about the benefits of having a steady source of income. Today, Mary's husband is actively engaged in helping her prepare the food, clean, and do other domestic chores at home. Depending on the amount of orders, they prepare and sell their food at different times of the day.

Mary is now the owner of a successful and thriving business. "I am so lucky," she says. "MFF gave me this opportunity, so I will not give up this business at any cost."

With a regular income of over US \$100 per month, which is US \$60 more than what she used to make before the project, and with the support of her family, Mary can now afford medicines for her husband and tutoring for her youngest child.

With money saved from the business and land received from the government housing scheme to build a new house, Mary and her family feel empowered to expand and sustain the business into the future. She says: "My husband and I are not depending on anyone, this business makes us hopeful about our futures."

This story was contributed by Damith Chandrasekara, MFF National Coordinator for Sri Lanka. Damith drafted the piece following the IUCN Asia Strategic Communications for Conservation Workshop in Bangkok, Thailand, which took place in July 2017.

## Sewing and candle-making: **Empowering the women** of Keti Bandar

n the coastal town of Keti Bandar in Sindh Province, Pakistan, locals once cultivated red rice on mudflats which received abundant freshwater from the Indus River Delta, the fifth largest delta in the world. Red rice was a source of livelihood for thousands of local communities, and was a major commodity exported to India and the Middle East. Rich in natural resources, Keti Bandar was thriving. It was so prosperous that, according to archival records, it used to extend loans to development activities such as candle Karachi, Pakistan's capital.

In recent decades, the structures built to divert the Indus River have decreased the water flowing into the Indus Delta. As a result of the intruding sea and increased salinity in the soil, agricultural lands have been swept away and made unproductive. Red rice cultivation ceased, and livelihood dependencies shifted from agriculture to fishing. Unfortunately, in the last few years, the lack of freshwater has led to the degradation of mangroves and fisheries resources, impacting the livelihoods of fisherfolk as well. Besides fishing, the women of Keti Bandar used to mend fishing nets to earn an income. Unfortunately, the widespread availability of factory-made nylon nets meant that the women now had fewer nets to mend.

Within households, women also engaged in traditional embroidery. However, limited access to and knowledge of market trends meant that their products were not up to market standards,

and subsequently fetched low prices. Coupled with limited decision-making power, the women are often left out of development planning.

As part of an MFF initiative, local NGO Centre for Environment and Development, in collaboration with the Women Entrepreneur Development Organisation, received an MFF Small Grant with the aim of encouraging local women to participate in training and skillsmaking and sewing, engaging them in alternative income generating activities.

Almost 40 women from some of the lowest-income households in Keti Bandar were trained in sewing, candle making and improved overall expertise in stitching and designing. They were also equipped with the necessary tools and materials to support the establishment of womenled household-based enterprises.

Some of the trainees explained that this was the first project in the town that trained local women and provided them with the right tools, materials and machines to apply their newly-acquired skills in a practical manner. "In the past, trainings were not very effective as trainees were not able to practice their skills," said one of the trainees.

Rehana, an 18-year old girl whose father is struggling to feed his family, learned how to sew through the project and is proud that she is able to support her

family by earning additional income from selling clothes to her neighbours. She is also able to save money by mending her own family's clothes. Rehana's friend, Ghazala, is also able to support her family after picking up new skills, as is 17 year-

"I feel empowered," says Bushra, "as I can now support my mother, a housewife, and father, who is a fisherman and give pocket money to my younger brother. Earlier, I relied on my parents for everything but now I am supporting them. I can also help my family cut down on expenses by mending our clothes."

Many households in Keti Bandar purchase candles to light up their houses at night, resulting in higher household costs per month. With their new candle making skills, women were able to generate a completely new income ranging between US \$7 and \$18 from candle making and also save US \$6 per month, which they would use to purchase candles, and are now spending to meet other household needs.

The project has not only empowered women economically, but also socially. "I now contribute to my family's household income and feel respected by my family members, particularly the males," reflected Nadia Memon, one of eleven women trained in candle making.

Rasheeda, who possessed some basic stitching skills, now feels a great improvement in the quality of her craft



due to the training and feels confident about her future as a young female businesswoman. "Earlier, I used to earn US \$1 for every dress I sewed. Now I am earning twice that amount as my sewing skills have improved," said Rasheeda.

While MFF and CEAD have taken the crucial first steps to integrate gender considerations into their communitybased interventions, more needs to be done. Because both women and men have unique relationships with, dependencies upon, and expertise regarding their environment, there is a need to enhance the understanding of the distinct roles and contributions that both men and women bring. This would lead to an increased recognition of their needs and interests in policies and programmes, paving the way for more effective interventions.





Sustainable management of coastal resources can only be achieved with the engagement of all stakeholders. With the private sector actively involved, MFF is working toward better outcomes for healthy ecosystems and the businesses that rely on them.

Petch Manopawitr (right), IUCN, during the Forum's SDG 14 'Life below water' panel discussion - Credit: Ann Moey - IUCN/MFF

## The Business Community: Partners for a sustainable future

By Ann Moey, Head of Communications, IUCN Asia

eld over two days, the Forum examined each of the 17 Development Goals (SGDs) in depth, with case studies and insightful perspectives governments, businesses, intergovernmental agencies and The ultimate goal was to help companies better understand the new development agenda and the opportunities in supporting governments and civil society organisations to help achieve them.

As a keen believer that the private sector can play a key role in our quest for a sustainable future, I headed to the 5th edition of the Forum with high hopes: the event promised an attendance of over 700 participants, including a star-studded line-up of top ranking business professionals, policymakers and NGO representatives from all around the world.

I wanted to hear first-hand from the business leaders themselves that their priorities have shifted - from being purely profit driven to making sustainability integral to running a successful business.

Launched by the United Nations, the SDGs aim to achieve extraordinary things in the next 15 years. This includes reducing greenhouse gases, ending

poverty and increasing economic opportunities around the world.

Unlike their predecessors, Millennium Development (MDGs), SDGs development priorities environmental protection, equality, and inclusive growth with key business goals like revenue generation, resource productivity and risk management. This can be seen as an indication that the private sector has now been identified as a principle driver in achieving our global development goals. The SDGs also imply that the partnership between the public and private sector needs to evolve.

All over the world, businesses - to varying extents - rely on natural resources for countless production processes. As a result, many business activities have detrimental effects on our planet's natural systems, as reflected in declining water supply, deforestation and climate change.

This is where IUCN's Business and Biodiversity Programme comes in; working with the private sector to ensure that biodiversity and sustainability considerations become an integral part of their operations.

Declining resources have certainly put pressure on businesses to change the way in which they function. If we proceed with business as usual, our planet's finite resources will eventually run out - at a rate much faster than we could ever expect.

This is a clear sign that that while businesses affect the health of the planet, they can also play a role in saving it - and offer innovative solutions for conservation in the process.

The key word here is 'innovation.'

How can businesses create sustainable approaches and standards that safeguard healthy natural systems, upon which all life depends?Business leaders will have to innovate: go back to the drawing board and think of ways to change the way they function. If, for example, businesses want to contribute to environmental protection, they may need to think about how they can reduce their carbon dioxide emissions footprint. Can they invest in clean energy like solar power? Can they make their offices more energy efficient? These are all questions that business leaders have to ask themselves, and other key decision-makers when it comes to the way they carry out their business activities.

One way they can be ahead of the curve, in terms of creating and innovating, is by forming greater international networks.

This brings me to my next point: collaboration.

SDG 16 explicitly talks about a 'global partnership for development'

and has a target specifically related to multi-stakeholder collaboration. It has been widely recognised that governments alone cannot move sustainable development. At the Forum, keynote speakers echoed this point by emphasising that all sectors of society need to converge, leverage one another's resources and expertise, and develop joint strategies in order to move closer to the sustainable develop goals.

Here in Asia, for example, Marriott Hotels & Resorts established a partnership with Mangroves for the Future, IUCN's regional coastal ecosystem initiative, to protect the environment and support Thailand's local communities through mangrove restoration, the use of sustainable seafood sources and local procurement practices. In short, Marriott wanted to conduct its business in a more sustainable and socially responsible manner, and IUCN - whose mission is to influence, encourage and assist societies to ensure that any use of natural resources is equitable and ecologically sustainable - knew how it could help Marriott achieve its goals.



Additionally, the partnership contributes to a much bigger conservation priority – protecting our oceans.

As my colleague Petch Manopawitr, who was part of the Forum's SDG 14 'Life below water' panel discussion, has said: "The ocean is our lifeblood. It is fundamental to sustaining life on Earth; is a major carbon sink, and produces half the oxygen we breathe."

Another way in which we can collaborate is to exchange lessons learned in order to scale up frameworks that already exist, so as to be more effective on a much larger scale. For MFF, the programme hopes to scale up the lessons learned from its partnership with Marriott to assist other companies in the tourism and fisheries sector.

Finally, we need to take action. Because what would be the point of all that talk and discussion if nothing is being executed on the ground?

Companies can drive change through their own actions. But to strengthen their positive contributions – as mentioned earlier – there must be ongoing engagement with key stakeholders.

In terms of environmental protection, the private sector can work with partners like conservation organisations to determine what the best course of action may be. In India for example, IUCN worked with TATA Steel to develop a biodiversity management plan for several mining sites. The company has since adopted policies on the ground that minimise impacts on biodiversity.

Besides opening new prospects for businesses to manoeuvre in the right direction to achieve the development goals, the SDGs also offer a unique opportunity for development actors to be strategic about their collaboration with the private sector and to be realistic in their expectations of the private sector.

If done properly, businesses can clearly become real agents for change, while also being profitable and securing their longterm viability.

Needless to say, the Forum met my expectations. By setting itself up as an enclave of common understanding towards a sustainable and equitable future, the event helped all sectors of society, in particular, the business community, move one step closer to making the SDGs a reality and not just a dream.







arine cetaceans such as whales, dolphins and porpoises are arguably the most commonly seen and best-known marine mammals in Asia. Over 86 species are found globally, of which 25 have been reported in Indian waters. The size and pivotal position of marine cetaceans as predators within food webs makes them ecologically important and a significant conservation concern.

There is limited information on the cetaceans of India even though all species are given the highest level of protection under the Wildlife Protection Act (1972). In 2005, an MFF Project with WWF India found over 230 registered dolphinwatching boats operating in North Goa alone.

Recently there has been an increase in reports of live and dead stranded whales and dolphins along India's coastline. This urgently called for the implementation of an effective national response and monitoring plan.

In June 2017, MFF collaborated with Terra Conscious and the Goa Forest Department to conduct a series of workshops for Drishti Lifesaving on how to responsibly respond to marine wildlife in distress.

Lifeguards are a constant presence on the beaches in Goa. In addition to saving human lives, they are often called to deal with marine animals than have washed ashore, including whales, dolphins, turtles and sea snakes.

"Drishti lifeguards are first-line responders to marine animal stranding, acting as the eyes and ears for the Goa Forest Department," says Anil Kumar, Chief Conservator of Forests for the Goa Forest Department.

Over 150 lifeguards and 50 forest guards and officials from North and South Goa were trained in how to handle live and dead marine cetacean strandings. Specific guidance and



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Indo-Pacific humpback dolphins off the coast of Goa, India - Credit: Abhishek Jamalabad

practical training on globally-accepted protocols were also provided. The groups discussed the challenges they faced and subsequently came up with solutions to those issues.

The response from the Drishti lifeguards and Goa Forest Department was positive. Prior to the workshops, the lifeguards were unaware of the protocols, occasionally putting themselves at risk in order to save the animals.

"This initiative is one of the first of its kind in India and a stepping stone towards collaborative and efficient marine species rescue and conservation," says P. R. Sinha, Country Representative for IUCN India.

The trainings help increase the likelihood that live stranded animals are saved and that any carcasses found onshore are disposed of correctly. The basic measurements and data collected will help identify trends in stranding events and develop on-the-ground conservation solutions.

The lifeguards are now linked to the 24-hour Forest Department Control Rooms. Within just two days of the workshops, six reports of dolphin and marine turtle stranding were made by the lifeguards and efforts to save the live animals were successful.

MFF and Terra Conscious, in partnership with the Goa Forest Department, will continue to engage stakeholders – including tour operators – in marine species conservation. Continuing these interventions is important for Goa, where a sustainable blue economy is heavily dependent on healthy marine biodiversity.

## **Certified organic: A new prawn** paradigm in Bangladesh

In Shyamnagar, Bangladesh, approximately 17,000 hectares of land (nearly the area of Washington D.C.) are being used for shrimp cultivation.

ost farmers in Shyamnagar cultivate shrimp using toxic Fertilisers and pesticides from local shops, damaging the region's soil, groundwater and local ecosystems. This leads to mangrove degradation, sedimentation, saltwater intrusion and disease outbreaks, which then have severe socioeconomic impacts such as loss of land and food security, marginalisation, rural unemployment, loss of traditional livelihoods and the resulting social unrest.

methods were bad and harmful to the environment. All I knew was that the only way I could earn a living was by using these techniques that nearly everyone else was also using," said Abdus Sattar, a cultivating shrimp nearly all his life.

To motivate farmers to adopt environmentally sustainable practices, non-governmental organisation (NGO) Shushilan and Mostafa Organic Shrimp Products Ltd. (MOSPL), a local business, partnered with MFF to initiate the 'Road to resilience of Shyamnagar' project. The project trained farmers in integrated mangrove shrimp-farming methods, which provided higher economic returns compared to farms in areas where mangroves had been cleared. The higher economic value of "I didn't know that my farming shrimp, produced using organic methods based on criteria set by the Naturland Association for Organic Agriculture (Naturland), would serve as a financial incentive to reverse the environmentally harmful trends and, in the process, farmer from Shyamnagar who has been contribute to building the resilience of coastal communities.

Naturland criteria for organic aquaculture include the location and size of shrimp ponds, the presence of an improved water management system, vegetation cover, breeding and hatching practices, humane transport and slaughter, post-harvest handling, market analysis, etc., as well as the elimination of child and involuntary labour, gender inequality, and all type of sexual harassment on the farms.

As part of the project, Shushilan trained 100 farmers in mangrove plantation and husbandry, mangrove aquaculture, water management, marketing, and value addition techniques such as sorting shrimp by size, keeping them on ice, and avoiding chemical fertilisers. The NGO also developed a mangrove-based shrimp farming guideline to build farmers' capacity to become certified organic, and brought mangrove seedlings to the





community through the Bangladesh Forest Department and local nurseries. MOSPL and Naturland coordinated the process to document the farmers' progress, and MOSPL collected what the farms produced.

Sattar was one of the farmers who participated in the project, and worked towards preparing his farm for organic shrimp production by planting various species of mangroves around shrimp ponds. The farmers also fenced off the farm dykes to protect the area from cattle and other livestock, as per Naturland specifications, and monitored and recorded the steps they took to making and maintaining the suitability of their ponds for organic cultivation.

"After receiving the certificate and farming organic shrimp, my earnings are much higher than before," says Sattar, whose income has risen from TK 32,760 (US\$ 390) to TK 39,450 (US\$ 469) in

the past year. "I only have to work one job to provide my family with three meals a day, and I can send both my daughter and son to school, instead of just my son. I'm also happy to know that I am helping to protect the land from natural disasters like Sidr and Aila," he adds, referring to the cyclones that caused devastation in Bangladesh in 2007 and 2009.

Approximately half of the 100 farmers that were trained by the project, including Sattar, had already recognised the financial benefits of selling organic shrimp and had begun working toward organic cultivation before Shushilan offered their support; Shushilan encouraged more systematic efforts towards the goal of certification, building on what had already been achieved and streamlining the rest of the process. The other half of the project's trainees, who started from scratch, have yet to achieve certification; Shushilan has been working with these farmers to reach the minimum 25% vegetation coverage

required for certification, so they can become certified during Naturland's next visit at the end of this year and benefit from the premium prices of certified organic shrimp.

Moving forward, Shushilan and MOSPL plan to expand organic shrimp cultivation to more farmers in Shyamnagar. They also hope for further innovation in organic farming procedures, as this will lead to improved livelihoods for the shrimp farmers, as well as enhanced resilience to natural disasters for the region's communities.

This story was contributed by Shahad Mahabub Chowdhury, National Coordinator for MFF Bangladesh. Shahad drafted the piece following the IUCN Asia Strategic Communications for Conservation Workshop in Bangkok, Thailand, which took

## **MFF Champions**

MFF is a partnership-led initiative that works together with government organisations, private sector entities, and civil society organisations to achieve long-term and sustainable coastal ecosystem management. Our partner organisations, and the people who drive them, are crucial elements of our success.

## Nature Lovers return mangroves to Pulau Dua



Well-known for its importance as a breeding site for water birds, Pulau Dua in Indonesia was established as a nature reserve in 1937. Unfortunately, in recent decades, much of Pulau Dua's mangroves were cleared for shrimp farms. With coasts deteriorated, fish that had previously used the mangroves as spawning grounds had to lay their eggs elsewhere and other services provided by the mangroves – like wood, used for construction and cooking fires – were no longer available.

Udin is one of many fishermen in the area who suffered the aftermath of this rapid degradation. Seawater intrusion contaminated fresh water in his village and the lack of mangroves meant that he had to go far away from the shore to fish, reducing his income. To fulfill his basic needs, Udin was desperately looking for other jobs in nearby towns.

Mangroves act as a natural barrier between land and sea and prevent coastal erosion. They also provide shelter for marine wildlife.

Realising that restoring mangrove forests would bring economic benefits to communities, like increased fish catch and mangrove branches for daily use, Udin and his friends teamed up with Pulau Dua Nature Reserve staff to plant mangroves on the coast. With limited resources, Udin and his friends

Udin repairs knots in the semipermeable barrier, which had come loose during recent heavy waves Credit: MFF Indonesia hand-nurtured the mangroves, and after one year the trees were already protecting Pulau Dua Nature Reserve from harsh winds and waves.

The activities of this initiative, which Udin calls The Nature Lovers, or Kelompok Pecinta Alam Pulau Dua (KPAPPD), did not go unnoticed. In 2013, KPAPPD, with the support of Wetlands International Indonesia (WII), started to plant mangroves along abandoned fishponds, which they used to cultivate milkfish and shrimp, a technique known as sylvo-fishery.

In 2014, KPAPPD tried an innovative technique in the buffer zone of Pulau Dua; a semipermeable barrier made of tree branches, sand bags and nets was set up to trap mud and sediment against the shore, providing a place for mangroves to grow.

Despite this success, KPAPPD could only protect a small part of the nature reserve, due to a limited budget.

In February 2016, MFF provided KPAPPD with a grant to build semipermeable barriers on other parts of Pulau Dua. By November 2016, the sedimentation was almost one metre and 1,500 mangrove seedlings were planted in January 2017.

The wives of KPAPPD members and other women in the village also formed a group. They received training from MFF in fish cracker and milkfish stick production, and subsequently generated approximately US \$118 per month from product sales. The women used this income to buy extra food for the family and pay their children's tuition fees.

The mangrove restoration and sylvofishery has attracted eco-tourists and generated additional income for KPAPPD, and Pulau Dua is becoming a learning site where local government and NGOs can learn how to make the semipermeable barriers. KPAPPD has also been invited to meetings and training events to share their mangrove restoration techniques and success stories.

Udin has boundless enthusiasm to improve local communities and the environment. "We can always do more with what we've got," he says, "and the MFF programme activities have absolutely increased my passion for society and nature."

He and his group will continue building semipermeable barriers and restoring mangrove forest along the coastline of Pulau Dua. Udin will also continue to raise awareness about the importance of mangroves for the communities' livelihoods.

This story was contributed by Telly Kurniasari, National Coordinator for Indonesia. Telly drafted the piece following the IUCN Asia Strategic Communications for Conservation Workshop in Bangkok, Thailand, which took place in July 2017.





# Beyond frontiers: Engaging the Pakistan Navy in coastal governance

isheries are the primary livelihood sector for 80% of the coastal population of Pakistan, but this sector contributes to only 0.5% of national GDP and 1% of the country's labour force. Fish and fishery-related exports yield, on average, a sum of PKR 8.8 billion (US \$838 million) for the country annually, but such trade benefits are critically dependent on the sustainable use of these marine resources.

The reckless degradation of coastal and marine resources has led to the depletion of wild fish stocks and ecosystem services. This is caused by the use of harmful fishing gear, weak enforcement of fisheries regulations, waste of fish catch due to poor handling and storage, coastal pollution, and degradation of mangrove ecosystems. Large-scale threats such as upstream diversion of freshwater, which causes changes in the delta, and climate change, make coastal ecosystems and their dependent communities increasingly vulnerable.

Through the MFF programme, Pakistan has been taking critical steps to overcome these challenges. The Pakistan National Coordinating Body (NCB), comprising representatives from government agencies, civil society organisations and the private sector, works alongside existing national frameworks for managing coastal areas and oversees MFF's activities in the country.

The NCB builds trust among various coastal agencies, and has created opportunities for policy-level discussions and improved coordination among the coastal institutions. As a key national organisation, the Pakistan Navy wields significant influence in coastal policy formulation and decision-making. Their involvement in the NCB piqued the interest of the Ministry of Defence, which joined in 2012.

## Realising shared goals

Over the years, MFF's partnership with the Navy has evolved from localised actions to more strategic policy-level engagement: from a Small Grant project in 2011 focussing on raising environmental awareness among PN personnel, to supporting the designation of Pakistan's first Marine Protected Area in 2017.

The 2011 environmental awareness campaign was the first of its kind to target all ranks of the Navy. It greatly helped to sensitise senior officers, like former Chief of Naval Staff Admiral Muhammad Zakaullah, to coastal environmental issues.

"I have served in the Navy for 40 years and used to operate in the mangrove canals around Karachi," he recalled. "Back then the waters were clean and we often saw dolphins. But I was not even aware of what the trees were called, let alone how important they are for fisheries and coastal protection."

As a result of his newfound appreciation for mangroves, Admiral Zakaullah presided over the relaunch of a mangrove plantation campaign, which began in 2016. It was reaffirmed in August 2017, with the Navy pledging to plant one million mangroves by the end of the year.

As a member of the MFF NCB, the Navy was also instrumental in this year's designation of Astola Island as Pakistan's first marine protected area. In September 2016, at the IUCN World Conservation Congress in Hawai'i, a motion had been passed to have Astola declared an MPA. Between the Congress and June 2017, the Navy was a key facilitator of the designation process, helping to organise site visits to the island for experts to conduct situational assessments.





### Overcoming institutional obstacles

Establishing MPAs in Pakistan had been challenging at first. Lack of engagement from the Navy and Ministry of Defence led to a general perception that they were against the designation of MPAs in Pakistan, when the real obstacle was simply the lack of a platform for inter-organisational dialogue.

MFF's NCB proved to be an invaluable asset, as it provided this type of inclusive platform that allowed engagement among all the key stakeholders through a consultative process. By June 2017, the first MPA had been established, bringing Pakistan closer to achieving Aichi Biodiversity Target 11, which specifies that at least 10% of each Party's coastal and marine area must be classified as Protected.

Building a relationship with the Pakistan Navy and the Ministry of Defence wasn't simple, either, as these agencies operate under strict regulations. Focal points also change frequently. Despite this, a steady relationship has been maintained, resulting in a staunch friendship with the institution as a whole.

The engagement of the Navy and Ministry of Defence in the process has been vitally important, as it allowed access to strategically important military locations which are usually restricted. The Navy provided logistical support during field assessments and visits by senior government functionaries, and the Ministry of Defence also assisted in the preparation of geographical coordinates for Astola Island MPA.

The aims and objectives of civil society and government organisations complement and reinforce each other. "You have become navalised," joked Lieutenant Commander Noorul Amin, referring to the trust between the MFF Pakistan National Coordinator and the Pakistan Navy. This particular partnership has yielded tangible results on the ground and has generated a great deal of interest in nature conservation among government agencies without an explicit conservation focus. These agencies are now playing active roles in guarding the country's natural assets as well as its borders.

This story was contributed by Ghulam Qadir Shah, MFF National Coordinator for Pakistan. Ghulam drafted the piece following the IUCN Asia Strategic Communications for Conservation Workshop in Bangkok, Thailand, which took place in July 2017.





## How mangroves got their roots back in East Java

This blog was originally published in Thomson Reuters to celebrate International Day for the Conservation of the Mangrove Ecosystem, 26 July 2017.

In the village of Gelung in East Java, Indonesia, 43-yearold Rustima looks out from the small kiosk she maintains with her husband overlooking the sea and a new mangrove rehabilitation site.

Here, as in other low-lying island areas, each time the tide goes out it comes in just a bit further, and the waves hide an insidious secret: a rising ocean is swallowing the beaches, driving away tourists and fisherfolk alike, eroding the earth and the livelihoods of people like Rustima.

#### Rustima's kiosk

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By the time she opens for business at 9 a.m. Rustima has already returned from the market with goods and supplies to sell, fed her family's livestock and cooked the day's meals. During the fishing season, the kiosk – located near Gelung's Pathek Beach – stays open throughout the night, so that people fishing along the shore can gather for coffee breaks.

When it's not the fishing season, Rustima and her husband work in the corn fields. Her afternoons are spent gathering grass as fodder for her livestock, and in the evenings, there is time for Koran recitations and social activities.

#### Livelihoods swept out to sea

At Pathek Beach, the effects of climate change and rising sea levels have been profoundly felt. In the 1990s, mangrove forests were cleared to make way for more intensive aquaculture.

The economic benefit of those measures was quickly lost when about 13km of fully-exposed coast fell into the sea, causing flash floods that swept through the sub-district, taking with it chunks of East Java's main east-west artery. The crumbled road left 80% of the population, all fisherfolk, with little choice but to raise the prices of their goods to account for the extra time spent getting from fishing site to market and back.

Some were forced to change professions entirely – leaving behind the beaches, and Rustima's kiosk.

## Returning mangroves to Gelung

Mangroves for the Future has been supporting Rustima and her village to build their resilience to rising sea levels by helping to restore mangroves, and by helping women diversify family income. So far, 74,000 saplings have been planted in and around the village, and women's community groups have begun selling homemade snacks to generate revenue.

"I have picked up some new skills," Rustima says, arms buried up to her elbows in fish cracker dough. "I use fish that I get from the local market to make crackers and fish floss that I sell at my kiosk. My family now makes about IDR 1,302,000 (US \$100) per month. This is 14% more than what we made before the project started."

Once the mangroves grow large enough for young fish to shelter among them, fisheries yields are likely to rise. This helps the women generate more income. Rustima's kiosk business will also benefit – more fish means more fishermen, which in turn means more snack orders.

### Nature's coastal purifier

Mangroves protect both humans and wildlife, providing nurseries for fish, molluscs, crabs, shrimp and even sharks. In Southeast Asia, home to 41% of the world's mangroves, they have been estimated to support 30% of the fish catch and almost 100% of the shrimp catch.

Mangroves also act as a natural barrier between land and water. The tangled roots of mangrove trees keep coastal sediment from slipping out to sea, and the trunks absorb the force of waves – from ripples to tsunamis.

Mangroves are hard to rival when it comes to carbon storage, as they can extract large amounts of carbon from the air, which is then sequestered in the soil. When mangrove forests are cut down – to make room for fish ponds, for example – the impact is twofold: stored carbon is released into the atmosphere, and the trees are no longer there to absorb it.

As we figure out how to curb climate change and reverse the trend of biodiversity degradation on a global scale, many people's lives will continue to be affected. Programmes like MFF help people like Rustima and her community – at the frontlines of the battle for nature – by rehabilitating mangroves, restoring the integrity of coastal ecosystems and expanding opportunities to sustainably generate income from coastal resources.



This opinion editorial, authored by MFF Coordinator Dr Steen Christensen, Stimson Center Environmental Security Program Director Sally Yozell, and Stimson Center Southeast Asia Program Director Brian Eyler, was published ahead of the U.S.-ASEAN Conference on Marine Environmental Issues, which took place in September 2017.

The United Nations' call to conserve and sustainably develop the oceans perhaps resonates most with Southeast Asia than in any other part of the world. With a maritime territory three times the size of its landmass, the region is one of the world's most bountiful and diverse maritime areas. The ten ASEAN countries account for a quarter of the world's fish production, and 20 million people depend on the fishery industry for their livelihoods.

The region's vast coral reef system comprises 34% of the world's reefs, and is a critical marine environment that provides essential habitat for fish and other marine animals to live and grow. Furthermore, corals and mangroves along the coast in Southeast Asia provide critical natural resilience against increasing storms and rising sea levels, as well as help to filter pollution as it runs off the land. But as populations expand and increasing stress is placed on these natural resources, Southeast Asia, like much of the globe, is at risk for overtaxing the marine environment. ASEAN nations must seek the right balance for sustainable development – one rooted in ensuring prosperity for all, while protecting the ocean.

In the past two decades, fish consumption per person in

Southeast Asia has increased from 13.1 to 33.6 kg, and the United Nations Food and Agriculture Organization estimates that nearly 85% of all global fisheries are fully or partially overfished. This reveals that ASEAN member states, with growing demands for fish from stocks that are depleted, are at the centre of food insecurity and sustainability issues. Furthermore, unsustainable fishing practices in the region threaten the majority of the region's coral reefs, where a third of the world's corals live.

Recent studies have also highlighted that five ASEAN member states were in the top ten of plastic polluting countries in the world, all of which contribute to endangering sea creatures and damaging marine habitats that impact ecotourism and human health. This is further compounded by the effects of illegal, unreported, and unregulated (IUU) fishing which is estimated to rob economies of up to US \$36 billion a year globally. Adding to this problem are the range of human health and security issues rampant in the fishing industry and carried out by criminal organisations that take advantage of low security at ports. In this region of the world, only three countries have ratified the Port State Measures Agreement (PSMA), an international treaty designed to help stop IUU fishing by mandating that foreign fishing vessels provide prior notice of entry into a port.

Without PSMA ratification, port security officials in the region have fewer tools at their disposal to address the problem of fishing vessels entering illegal, unreported, and unregulated catch into the market. The challenges of unsustainable and illegal fishing, rapid coastal development, and pollution create



opportunities for ASEAN member states to tackle one of the last frontiers for regional and global cooperation: the ocean. In recent years, ASEAN has made significant headway in meeting these challenges.

At the 2016 Our Ocean Conference in Washington, D.C., many ASEAN states committed to create and manage new marine protected areas for the first time, a critical mechanism to fostering biodiversity and protecting the marine environment. The momentum of this conference, and the examples set by the initiatives of ASEAN states, will serve as important foundations for integrating best practices, policy discussions, and pledges in the future.

The upcoming U.S.-ASEAN Conference on Marine Environmental Issues held in Bangkok on 14 and 15 September will focus on blue growth, traceability practices, marine protected area creation, and sustainable fisheries management, to name just a few. The conference is sponsored by the U.S. Department of State and managed by the Stimson Center and IUCN's Mangroves for the Future programme.

The Bangkok conference, along with Our Ocean 2016, which witnessed inaugural commitments from ASEAN member states, and the recent Economist's Conference held in Bali earlier this year, all serve as models to showcase regional collaborative efforts, policies and technical work to prepare for the 2017 Our Ocean conference this October in Malta and the 2018 Our Ocean Conference in Indonesia.

By building a collaborative platform for multiple stakeholders who work together locally, nationally and regionally, the Mangroves for the Future programme, which spans 11 countries in Asia, is a good example of an initiative that brings different stakeholders together to contribute to improved coastal conservation practices. A number of these stakeholders will be present at the conference in Bangkok to share their expertise and best practices with fellow ocean stewards.

Moving forward together on the region's marine environmental issues will contribute to fostering regional cooperation and collaboration to mitigate and reduce the human impact on the oceans.

By working together and engaging in dialogue to address shared concerns, the region will be able to develop forward-thinking policies, secure commitments from both industrialised and developing nations, and adopt a multi-sectorial approach that integrates social, economic and environmental dimensions, to achieve the sustainable development of our ocean resources.



## Is the tide turning for oceans?

By Aban Marker Kabraji

This opinion editorial was written by Aban Marker Kabraji, Regional Director for IUCN Asia and Director of IUCN's Asia-Oceania Regional Hub. It was published on World Oceans Day in Al Jazeera and Eco-business.

Covering more than 70% of our earth's surface and home to 700,000 to 2 million species, the ocean is the lifeblood of our planet. Besides bringing a sense of serenity through the gentle - albeit sometimes roaring - rhythm of its waves, the deep blue employs millions of workers, feeds billions of people and generates trillions While the region's exponential of dollars of the world's economy.

However, despite having such a profound impact on our lives, oceans are often taken for granted. As vast as they may seem, the resources provided by our oceans are finite.

In recent decades, threats such as unsustainable and illegal fishing, tourism and climate change have increasingly threatened coastal and marine resources.

In Asia, where over 30 million people rely on these resources for their livelihoods, the stakes are high.

economic growth has benefitted its

communities through higher incomes and a better quality of life, everincreasing commercial, agricultural and industrial activity has also exacerbated threats to the region's ecosystems: 95% of Southeast Asian coral reefs are at risk of being destroyed and over 80 ocean species in the region are listed as Critically Endangered and Endangered.

Scientists have warned that, as increasing amounts of CO2 are absorbed by our oceans, seawater is becoming more acidic, threatening aquatic ecosystems and organisms.





But tides might actually be turning. The Paris Climate Agreement has united many nations in the common cause of tackling climate change by limiting global carbon emissions and thereby protecting our oceans.

The United Nations' 2030 Agenda for Sustainable Development has made it crystal clear that a commitment to the conservation of oceans is necessary to secure a better future for all, through Sustainable Development Goal 14 - 'Conserve and sustainably use the oceans, seas and marine resources'.

One way to protect our vital ocean ecosystems is to increase the number, size and management effectiveness of Marine Protected Areas (MPAs).

MPAs are established to preserve not only coastal and marine terrain, water and the genetic diversity of associated

flora and fauna, but also historical and cultural heritage.

It is important that the boundaries of MPAs are delineated through multi-stakeholder consultation and consensus, so that encroachment becomes less likely and enforcement becomes more effective. Local communities, who have traditional knowledge of their natural resources, also need to be involved in the governance of their ecosystems, to relieve the pressure on both nature and governments.

Mangroves for the Future (MFF), a regional coastal programme cochaired by IUCN and UNDP and spanning 11 countries across Asia and the Indian Ocean, has developed Marine Protected Area (MPA) frameworks for Bangladesh, Pakistan, Cambodia and Myanmar.

MFF's overall approach is to identify needs at priority sites. These needs are then addressed through grants and other activities that generate knowledge, empower local communities, and strengthen the governance of coastal ecosystems.

In Pakistan, Astola Island is shaping up to be the first MPA in the country. At the IUCN World Conservation Congress last September, a motion was adopted to declare the island an MPA. Since then, MFF has collaborated with the Pakistan Navy to undertake a situational analysis of the island. The next steps will be to ensure that local communities and other stakeholders at the grassroots level are included in the governance and decision-making processes related to the establishment of the new MPA.



This week, at the UN Ocean Conference in New York, IUCN will be joining the government of Pakistan as it reaffirms its pledge to protect Astola Island, thereby fulfilling its commitment at the Congress to designate at least one site in Pakistan's territorial waters as an MPA by 2020.

Studies have shown that small MPAs that are well-managed and well-enforced are facilitating resources recovery, sustaining fisheries, improving livelihoods and promoting sustainable tourism. Yet, while MPAs can be very effective in

the conservation and management of our oceans, they cannot address all threats to marine life.

Complementary actions need to be implemented in parallel to make fishing and aquaculture sustainable, address climate change and reduce marine pollution.

IUCN aims to build on lessons learned from MFF – notably the effectiveness of a partnership-based focus and a governance structure that invites country-level ownership

- and scale up the programme, to further improve the resilience of coastal ecosystems, support the livelihoods of millions of people, and increase carbon storage capacity by protecting and restoring mangrove habitats.

This year's theme for World Oceans Day is "Our oceans, our future." Despite recent setbacks such as the US administration's decision to withdraw from the Paris climate agreement, many other nations remain committed to the Paris Accord. Through progressive and forward-thinking

policies, commitments from industrialised and developing nations alike, and a multi-sectorial approach that harnesses advancements in science, finance and development, we actually stand a chance to make our oceans truly great again.

This piece was published 8 June 2017. Astola Island was officially declared an MPA one week later, 15 June 2017.

# Good science, best practice

MFF shares its experience in coastal ecosystem management with stakeholders and partners through knowledge management tools in the form of publications, and the DMS online internal communications platform, providing avenues for dialogue and mutual learning on critical issues.

In 2013, the West Bengal Forest Department, through SBR and MFF, partnered to implement a Large Grant project towards, amongst other goals, strengthening the institutional and infrastructural arrangements for conservation of the Sundarbans mangrove ecosystem. These interventions derived from initial lessons learned through a Small Grant project aimed at assessing the effectiveness of introduced livelihood programmes in the region. WWF India partnered with IUCN and SBR to assess the effectiveness of Joint Forest Management Committees in conserving natural resources in the Sundarbans.

The chapter reflects the results of the assessment which demonstrated that community-centred conservation efforts in the Sundarbans are somewhat inconsistent. However, it is clear that where they are operationally strong, participatory management interventions are having visible positive impacts on wetland biodiversity and wise use of resources.

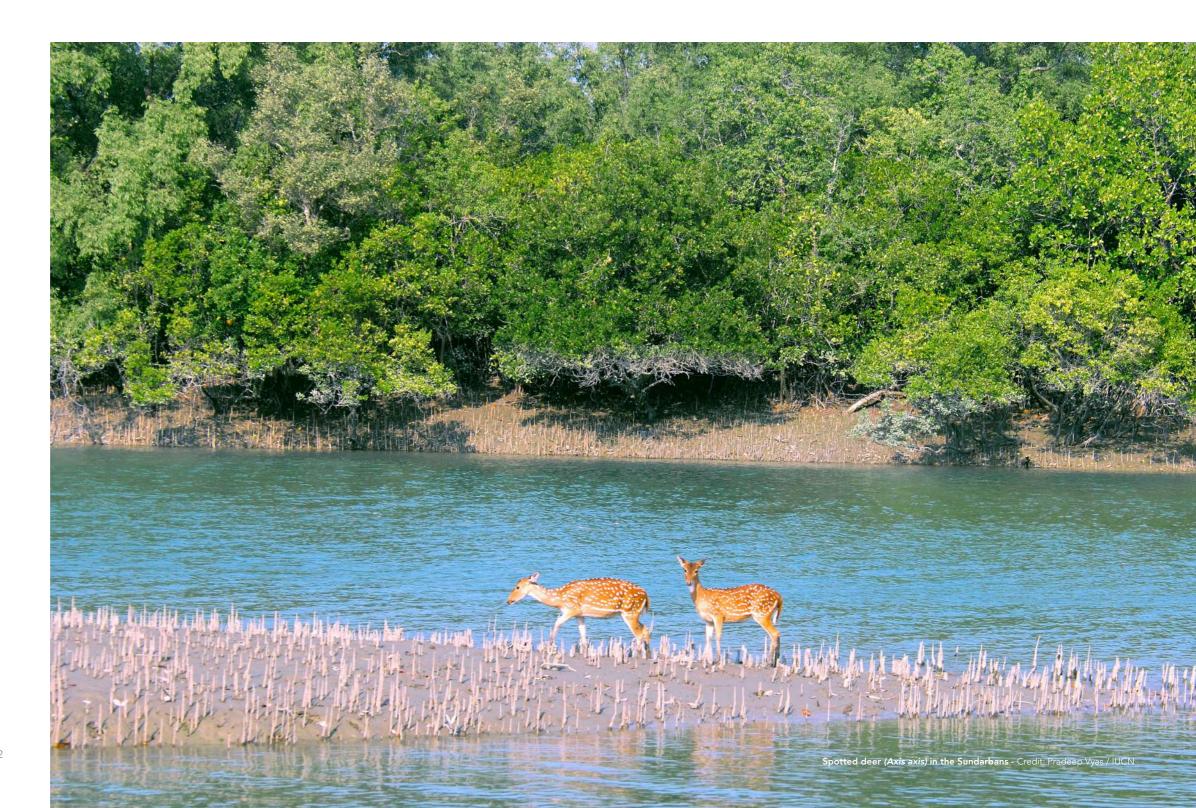
Chapter citation: D'Souza, N. M., Ishwar, N. M., Sumra, I., Vyas, P. 2017. Participatory Wetland Management: A Solution to Conservation Challenges in the Sundarban Biosphere Reserve. In, Prusty, B. A. K., Chandra, A., Azeez, P. A., eds. Wetland Science: Perspectives from South Asia, New Delhi: Springer India, pp. 575 – 587

# Community conservation in the Indian Sundarbans

n April 2017, Springer Journals published a special edition on Wetland Science: Perspectives from South Asia. IUCN, in partnership with the Sundarbans Biosphere Reserve (SBR), Government of West Bengal, contributed a chapter on 'Participatory Wetland Management: A Solution to Conservation Challenges in the Sundarban Biosphere Reserve.' The content is based on the results of a two-year joint project undertaken by IUCN and SBR in the Sundarbans mangrove ecosystem located in West Bengal.

Healthy wetlands support ecological and human well-being, delivering services for people, livelihoods and businesses. Conventional approaches to wetland conservation have often centred on protected areas. However, studies around the world are establishing that community participation, knowledge and practices are fundamental to effective wetland conservation and should be understood and strengthened.

Community-based management in the form of the Joint Mangrove Management (JMM) programme was piloted in seven mangrove wetlands in India – including the Sundarbans – by the M. S. Swaminathan Research Foundation and State Forest Departments between 1996 and 2004. In 2013, the Forest Survey of India reported that national mangrove cover had increased by 616.56 km2 emphasising the catalytic role of the JMM programme.



# Experts draw attention to a successful method of mangrove restoration

n 26 July, the International Day for the Conservation of the Mangrove Ecosystem, conservation organisations and mangrove specialists worldwide highlight the multiple multifunctional benefits of the practice of natural regeneration of mangroves.

Compared to planting efforts, natural regeneration of mangroves leads to higher survival rates, and results in a more biodiverse, resilient, and productive mangrove forest, enhancing community livelihoods and reducing disaster risk.

In the last decade, there has been a growing interest in the role mangroves can play in reducing tropical storm, coastal erosion and flood risk for coastal communities. Worldwide, hundreds of thousands of hectares of mangroves have been planted. Unfortunately, the majority of planting efforts fail, as planted seedlings die. Even if seedlings survive, the benefits to community resilience are not always guaranteed.

MFF, the IUCN Mangrove Specialist Group (MSG), Wetlands International (in collaboration with its Building with Nature Indonesia programme partners, including MFF) and the Mangrove Action Project, say that a more appropriate mangrove restoration method is urgently needed to enhance coastal safety, fisheries, aquaculture and carbon sequestration.

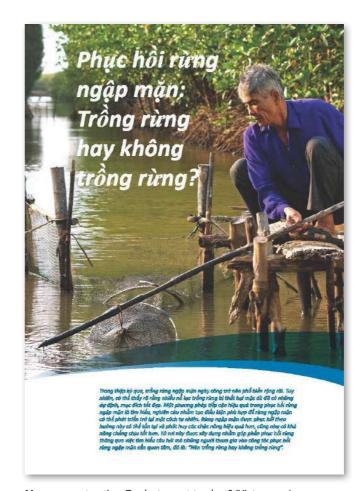
The experts compiled lessons learned in a discussion paper, in which they drew attention to the 'Ecological Mangrove Restoration approach' (Lewis 2014). This approach focuses on creating the right biophysical and socio-economic conditions for mangroves to grow back naturally, which results in the establishment of a sizeable, diverse, functional and self-sustaining mangrove forest that benefits both nature and people.

While planting can assist or enrich the natural regeneration process, the wrong species are often planted in the wrong places. Single-species planting, or monoculture, can lead to non-functional mangroves, with limited benefits and low resilience. Planting in the wrong places, such as in areas that were not previously covered by mangroves, can lead to damage to other ecosystems or block sediment and water flows.

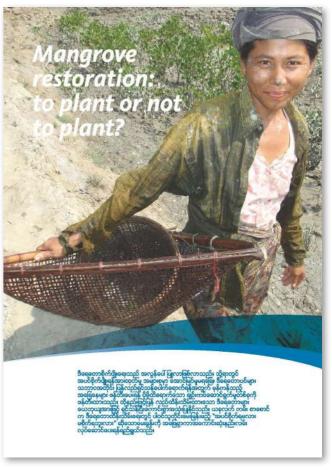
Conservation organisations and mangrove experts encourage local NGOs and funding agencies to be more cautious when implementing restoration projects and recommend involving restoration ecologists and experts in flood risk management. Understanding the restoration site with a proper risk assessment and receiving advice on the best practices at the specific site, along with local expertise, is key to effective mangrove rehabilitation.

To avoid mangrove reconversion, the experts also recommend that economic activities be developed in a way that provides sustainable benefits from the restored goods and services, thereby strengthening the business case for restoration.

The discussion paper, Mangrove restoration: To plant or not to plant, is available in Burmese, English, Indonesian, Spanish, Thai and Vietnamese. Later in the year, Khmer, French, Filipino and Malay versions will be distributed.







Mangrove restoration: To plant or not to plant? (Burmese) Credit: MFF / Wetlands International

#### CONTRIBUTING PARTNERS:

Mangroves for the Future

Indonesian Ministry of Marine Affairs and Fisheries Indonesian Ministry of Public Affairs and Housing

Ecoshape

Wetlands International

Deltares

Blue Forests

Wageningen University & Research

Mangrove Action Project (MAP)

IUCN Mangrove Specialist Group (MSG)

Cambodia: Participatory Management of Coastal Resources of Cambodia (PMCR)

Myanmar: ACTED, Mangrove Service Network (MSN)

Thailand: Mangrove Action Project (MAP)

Viet Nam: Mangrove Ecosystem Research Center (MERC)

El Programa de las Naciones Unidas para el Desarollo (PNUD)

Conservación Internacional Panamá

**MiAMBIENTE** 

Autoridad de los Recursos Acuáticos de Panamá (ARAP)

# Roots across the region

Spanning Asia and the Indian Ocean, MFF works with hundreds of civil society organisations, government agencies, private sector entities, and communities. At the local, national and regional level, the programme has made tremendous strides to ensure that oceans and coastal ecosystems are managed sustainably.



A mangrove seedling in coastal Thailand - Credit: Siriporn Sriaram - MFF/IUCN

## Mangroves and REDD+: A new component of MFF

angrove forests are among the most productive ecosystems on earth. They provide a variety of ecological and socio-economic services benefitting millions of people living in coastal areas. Mangrove ecosystems are important nursery and feeding habitats for many marine and coastal species and a major source of food and income for coastal communities. Well-managed, healthy mangrove forests also protect coastlines from storm surges and flooding.

Mangroves have significant carbon storage potential, sequestering carbon and storing it in the soil below, sometimes for thousands of years. The storage of this 'blue carbon' makes mangroves a critical ally in the fight against climate change, the harsh consequences of which have already been felt in the past few decades in the form of increasing global temperatures and accelerated sea level rise. These effects ultimately contribute to an increase in extreme weather events and the occurrence of natural disasters, such as cyclones and severe flooding, with the majority of people affected residing in low-income coastal areas.

Unfortunately, the world is losing its mangrove forests at an alarming rate. The loss of mangroves in Asia is nearly double the global average, with more than 250,000ha lost between 2000 and 2012. Although mangrove forests represent less than 1% of tropical forest area globally, they account for up to 10% of all emissions from deforestation.

The main cause of mangrove deforestation and degradation across the region is clearing for other land uses such as shrimp ponds, rice paddies and palm oil plantations. Overharvesting of trees for use as firewood and for charcoal production is another significant cause.

The capacity of mangroves to capture and store carbon dioxide from the atmosphere is becoming increasingly recognised at an international level, with several global initiatives setting out to reverse the trend of climate change through mitigation approaches that harness the unique capabilities of mangroves.

One such approach is Reduced Emissions from Deforestation and Forest Degradation (REDD+), which aims to reduce emissions from deforestation and forest degradation, and foster conservation, sustainable management of forests and enhancement of forest carbon stocks.

REDD+ creates a financial value for the carbon stored in forests. When countries better manage and protect forests, as well as provide sustainable development opportunities for local forest communities, forest loss can be reduced. Carbon dioxide that would have been emitted into the atmosphere if the forests had been cleared remains stored in the standing trees. Once verified through the REDD+ mechanism, countries can receive financial payments for these reduced emissions.

With support from the Norwegian Agency for Development Cooperation (Norad), MFF has initiated a new component aimed at including mangrove forests more consistently into national REDD+ strategies and processes.

During a one-year inception phase, from October 2017 to September 2018, MFF will work with member countries to identify opportunities for using MFF governance platforms and frameworks to support national and local priority efforts, with a focus on reducing greenhouse gas emissions through better management and protection of mangrove forests in accordance with the REDD+ framework and guidelines.

The inception phase is intended to result in a proposal to Norad for a multi-year pilot project to implement prioritised ecosystem-based climate change mitigation interventions in select countries, with a particular emphasis on utilising the high carbon-sequestration capacity of mangrove forests.



Mangrove roots, Phuket, Thailand - Credit: Ana Grillo / MFF





# MFF 14th Regional Steering Committee meeting in Myanmar

angroves for the Future held its 14th Steering Committee meeting in Yangon to assess achievements over the past year and discuss the programme's sustainability beyond 2018.

Held from 28 to 29 September, and hosted by the Forest Department, Ministry of Natural Resources and Environmental Conservation, the meeting began with an inauguration ceremony. Guests of honour at the ceremony included Mr Khin Maung Ye, Permanent Secretary for the Ministry of Natural Resources and Environmental Conservation; Dr Nyi Nyi Khaw, Director General for the Forest Department; Ms Aban Marker Kabraji, Regional Director for IUCN Asia; Mr Gordon Johnson, Regional Cluster Leader for UNDP in Asia and the Pacific; and Dr Steen Christensen, MFF Coordinator.

Sustainability of the MFF programme through 2020 was a key topic at the meeting, which was hosted by Myanmar, MFF's newest member country.

"Being a member of Mangroves for the Future is important for

Myanmar as we work towards the effective conservation and management of coastal resources," said Mr Khin Maung Ye. "With great expectations we gather here at this meeting to share the experience and knowledge gained by each member country, as well as present best practices that are beneficial for local communities through ecosystem-based management approaches."

"Today we are all fairly clear about the issues facing the long-term sustainable management of Myanmar's coastal resources, and the need for coordinated collective action to address them," said Aban Marker Kabraji in her opening remarks. "This is not only for the long term interests of Myanmar, but for the interests of the global environment as a whole."

Following the inauguration, the Steering Committee reviewed the progress made by the programme over the last year. Emphasising the importance of sharing experiences and best practice across the programme, the committee recommended that a regional thematic knowledge exchange event be hosted during 2018 to communicate lessons learned with a wider audience.

On the second day of the meeting, the participants discussed strategic priorities and expectations for the programme's sustainability through 2018 and beyond. The regional secretariat provided updates on the programme's sustainability plans, which focus on institutionalising the unique governance platforms of the programme, seeking opportunities to integrate MFF approaches into policy and planning, strengthening engagement with the private sector, and pursuing additional funding to support the programme vision of healthy coastal ecosystems for a prosperous and secure future for coastal communities.

The MFF programme continues to evolve and address priority issues in coastal ecosystems management. MFF plans to build on the success of the initiative over the last 10 years and address the role of these ecosystems, particularly mangroves, in both climate change mitigation and adaptation.

The Norwegian Agency for Development Cooperation (Norad) has already committed to funding the inception phase of a new component of the MFF programme which focuses on integrating mangrove forest ecosystems into the UN Reducing Emissions from Deforestation and Forest Degradation (REDD+) Programme.

Asia has the largest extent of mangroves in the world, with significant capacity to capture and store carbon, particularly below ground. However, Asia also has the highest rate of mangrove

deforestation of any region in the world. When mangroves are cleared for other land uses, the carbon stored in the trees and soil is released into the atmosphere and contributes to climate change. By including mangroves in mitigation initiatives such as REDD+, there is an opportunity to reduce these emissions and also reinforce the ability of both ecosystems and communities to cope with climatic variations.

Following the meeting, on 30 September, MFF hosted a learning event led by Mr Timothy Boyle, the UN-REDD Regional Coordinator for UNDP Bangkok. Attended by more than 50 coastal management practitioners from across Asia, participants enhanced their knowledge of REDD+ and discussed how and where mangrove forest ecosystems complement the REDD+ agenda from a policy and practical perspective.

A field trip to the Gulf of Mottama, one of the world's largest mudflats and a Ramsar site, was also organised for meeting participants to learn about community-led coastal management activities being implemented there.



## **Global Mangrove Alliance** welcomes new partners

ews article originally published by the Global Mangrove Alliance on International Day for the Conservation of the Mangrove Ecosystem 2017.

A newly launched partnership rallies the world to increase mangrove coverage by 20% by 2030.

The world is losing its mangrove forests at an alarming rate. Scientists estimate that 50% of our mangroves have disappeared during the last five decades. And every year we lose roughly another 1%. At this rate, all unprotected mangroves could disappear in the next century.

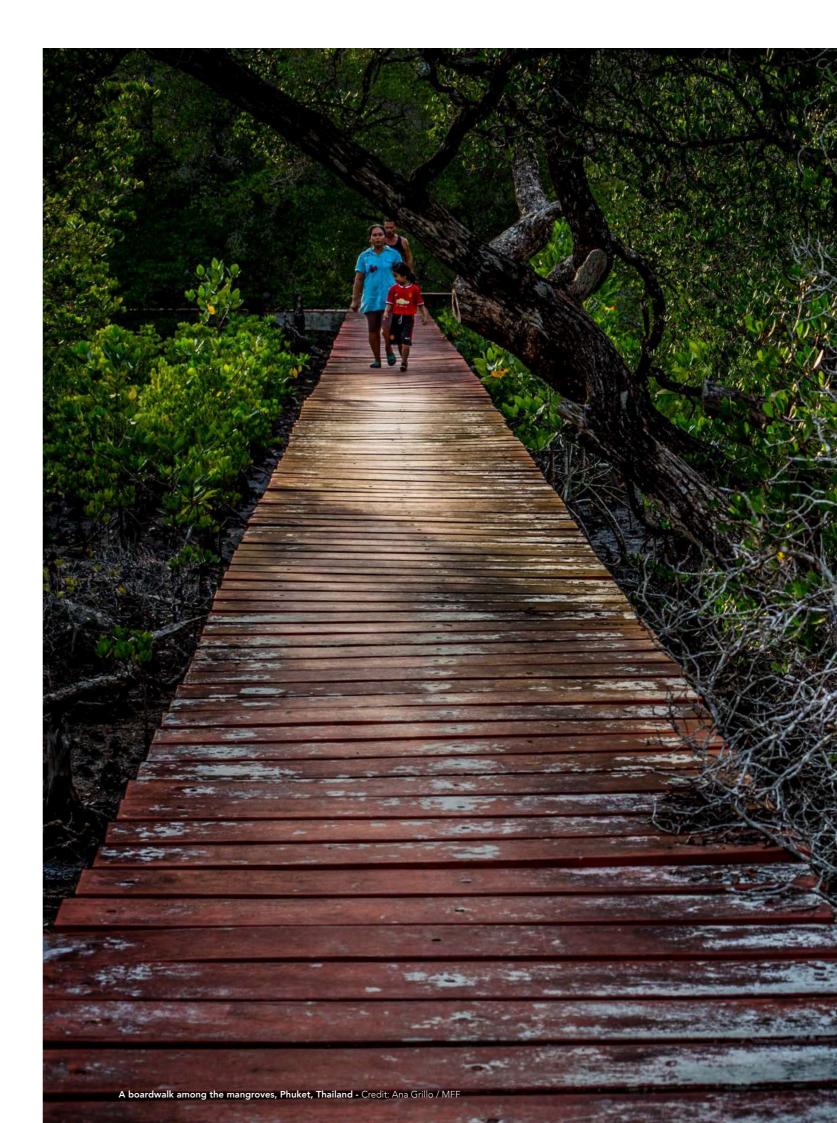
The Global Mangrove Alliance (GMA) is rallying the world around a target of increasing mangrove coverage by 20% over the current level by 2030. It is an ambitious goal – one that requires collaboration among partners from all sectors in every corner of the world with mangroves. We're doing our part to increase that collaboration.

As the world celebrates the International Day for the Conservation of the Mangrove Ecosystem, we are proud to announce that the GMA is growing. International Union for Conservation of Nature (IUCN) officially joins Conservation International (CI), The Nature Conservancy (TNC), and World Widlife Fund (WWF) as a founding member. We also welcome Wetlands International, Rare, Blue Ventures, Zoological Society of London (ZSL), and the Mangrove Action Project. All of these organisations bring new talent, insight, resources, and expertise to the table, which will be needed if we're to meet our target.

"Despite the gains made in recent years, we know that we must urgently step up our game if we are to reverse a rate of global destruction that has already deleted half of our planet's mangroves. Ultimately, this will mean organisations working together. This is why IUCN is delighted and deeply proud to be part of the Global Mangrove Alliance – an alliance that represents a renewed spirit of collaboration and one that will help the international community achieve our target to expand mangrove habitat by 20% by 2030," said Inger Andersen, IUCN Director General.

A mangrove on Huraa Island, Maldives, at high tide - Credit: Afa Hussain





IUCN has an extensive portfolio of global mangrove work and a history of engaging governments, civil society organisations, experts, and local communities to enable the creation and implementation of solutions to a wide range of environmental challenges. Notably, IUCN comes to the GMA with experience in developing and co-chairing Mangroves for the Future, a partner-led initiative in Asia and the Pacific that promotes coastal ecosystem conservation in 11 member countries at present.

IUCN has been driving the restoration movement through the Bonn Challenge, a global effort to bring 150 million hectares of degraded and deforested landscapes (including mangroves) into restoration by 2020, and 350 million hectares by 2030. Currently, 44 governments, private associations and organisations have committed 156.05 million hectares to the Bonn Challenge.

The need for collaboration and new partnerships is increasingly urgent as human activity continues to destroy mangroves, while the countless communities protected by these forests face ever-growing threats due to climate change, coastal migration, and unsustainable development and fishing practices.

"Wetlands International has been working for decades with communities, government partners, CSOs and the private sector on the conservation of mangroves across the tropics. By joining the Global Mangrove Alliance, we believe we are able to step up these efforts and work with CI, IUCN, TNC, WWF and many others to stop the degradation of mangroves and bring back some of the values that were lost," said Jane Madgwick, CEO Wetlands International.

Although mangroves are in the spotlight for World Mangrove Day, it will take more than an annual event to save them. To protect the lives and economic security of the millions who rely on mangroves for coastal protection, food, jobs, and carbon storage, we must continue to work together to address the threats to mangrove forests and enable governments and communities to sustainably manage these precious coastal ecosystems.





## **Training event strengthens** communications capacities of conservation actors across Asia

40 conservation practitioners from 13 countries across Asia took part in a capacitybuilding workshop on strategic communications in Bangkok, Thailand from 5 to 7 July. The workshop was organised by IUCN, in collaboration with Mangroves for the Future (MFF) and the Critical Ecosystem Partnership Fund (CEPF)

Ann Moey, Head of Communications for IUCN Asia, delivers a presentation at the Strategic



ne workshop aimed to help participants play a bigger role in telling stories about IUCN's, MFF's and CEPF's work private sectors. It also aimed to equip participants with a set of communications tools and techniques that can help them engage and influence key target audiences, through more effective communication of project results, stories of positive impact and lessons learned.

IUCN communications officers, MFF national coordinators and representatives from CEPF grantee organisations - comprised of civil society organisations from across the Indo-Burma region - worked in small groups to discuss communications concepts, with a focus on story-telling techniques. Participants also worked individually to produce stories of positive change.

Facilitated by Peter-Paul Van Kempen and Li Hanying from IUCN's Commission on Education and Communications, and assisted by the IUCN Asia Communications team, the workshop introduced key drivers of change, such as 'motivation', 'habits', and 'social pressure'. Participants also learned how to utilise these drivers of change to influence key conservation stakeholders.

By bringing representatives from two major regional programmes as well as IUCN country offices together, the workshop contributed to strengthening coordination and communication between diverse conservation initiatives in the region.

"As IUCN's model is based on partnerships, effective communication with these partners is an essential ingredient in our success, from grassroots stakeholders to policy-makers

and the international community, including the private sector," says Dr Tejpal Singh, IUCN Asia Deputy Regional Director. "In on the ground to key stakeholders in the government and order for IUCN to advance the conservation and sustainability agenda, it is important for the organisation to be able to influence government policies and mechanisms and to engage and influence the private sector to foster positive change in business practices."

> MFF and CEPF are two of the largest grant-making mechanisms in Asia, aiming to promote investments in coastal ecosystems and to safeguard biodiversity respectively.

> Workshops of this nature are a priority for both MFF and CEPF, as these programmes enhance the capacity of staff and grantees to use strategic communications to help drive policy change. MFF's mid-term review recommended that there should be an increased focus on embedding analytical thinking to enable programme staff to effectively capture lessons learned, accomplishments and challenges.

> CEPF also places a special focus on communications and storytelling as a means to encourage investments in biodiversity conservation and work towards achieving conservation goals.

> The workshop was attended by conservation practitioners from Bangladesh, Cambodia, China, India, Indonesia, Lao PDR, the Maldives, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand and

MFF secretariat members and National Coordinators work on a group exercise - Credit: Siriporn Sriaram - MFF/IUCN







## **Credits**

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