



MPRL A-6 Limited



CORAL

Reef Conservation

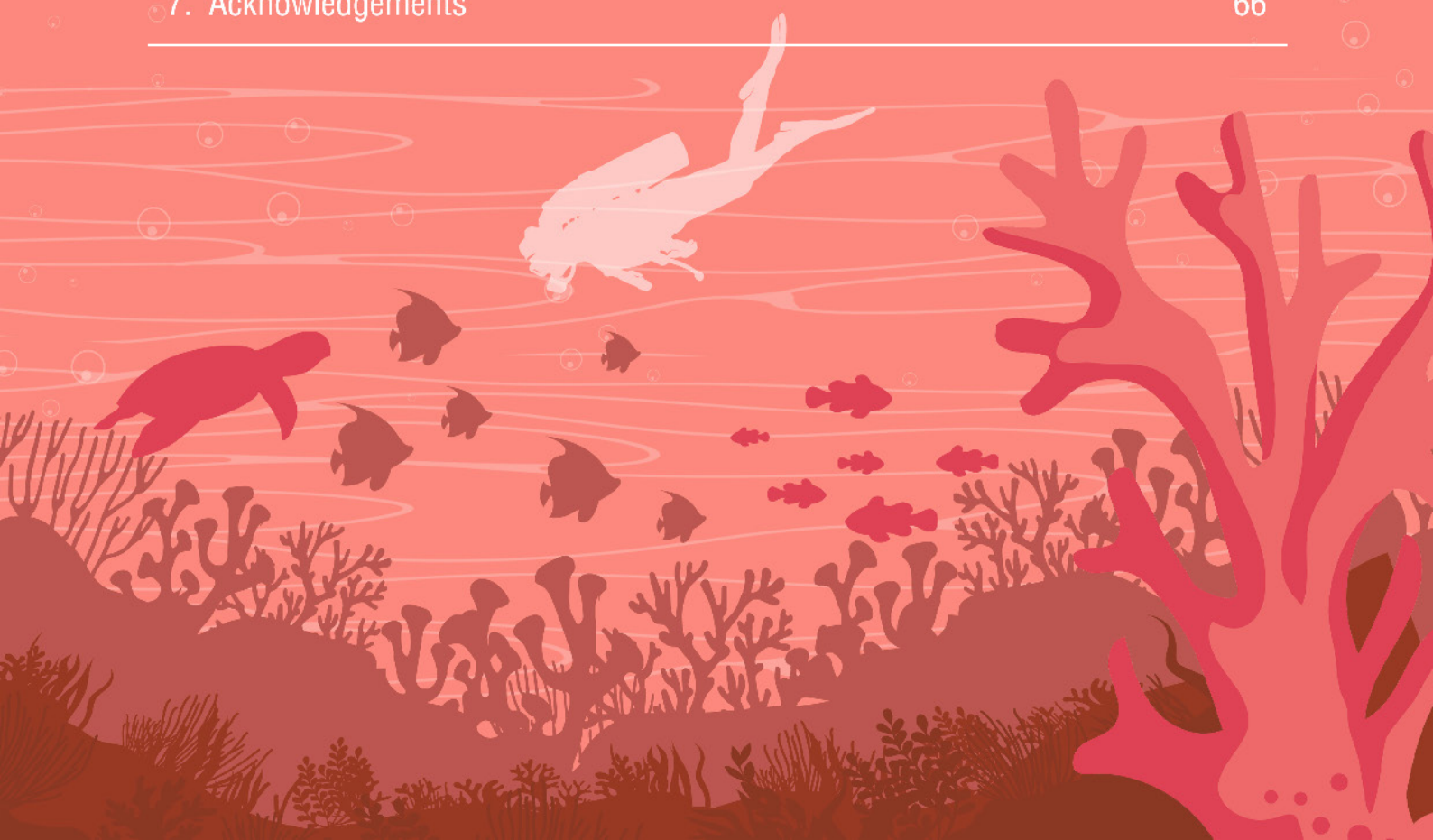
Pilot Project

Progress Report



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1. Executive Summary

The Republic of the Union of Myanmar, with its extensive coastline and vast marine resources, is endowed with a rich biodiversity and a captivating history. However, the western coastal area of the Ayeyarwady Region in lower Myanmar, renowned for its diverse marine life, faces growing challenges due to the declining health of its coral reef ecosystems. A 2017 research paper titled “Marine Resources of Nga Yoke Kaung Bay,” conducted by the Marine Science Department of Patheingyi University in collaboration with local Nga Yoke Kaung residents, highlights the urgent need to establish conservation zones to protect these vulnerable coral reefs.

MPRL A-6 Limited is implementing the Pyitharyar Integrated Project (PIP), also known as the Offshore Block A-6, approximately 30 kilometers west of Ngwe Saung Beach in the Ayeyarwady Region. Although not mandated by the project contract, MPRL A-6, as a responsible Myanmar company, is committed to fulfilling its social responsibilities and actively engages in various Corporate Social Responsibility (CSR) initiatives within the communities surrounding the Pyitharyar Integrated Project. Therefore, the company has established a dedicated fund to support CSR activities in the project area.

Awarded the rights to the Pyitharyar Integrated Project in 2007, MPRL A-6 was the sole operator until 2013 and achieved its first natural gas discovery in 2012. The project is located in an Ultra-deep Water area covering approximately 6,227 square kilometers, with water depths ranging from 2,000 to 2,500 meters—significantly deeper than other Myanmar offshore projects, typically in waters less than 200 meters deep. As an Ultra-deep Water offshore block, MPRL A-6 operates under a Production Sharing Contract (PSC) with Myanmar Oil & Gas Enterprise (MOGE) and is currently in the exploration evaluation phase.

Acknowledging the degradation of marine ecosystems, including coral reefs in the Ayeyarwady Region, MPRL A-6 prioritizes the marine conservation efforts. Under the close guidance of the Ayeyarwady Region Government, the company has launched a two-year Locally Managed Coral Reef Conservation Area project from 2024 to 2026, fully funded by the company’s PIP CSR Program.

In April 2024, the PIP CSR Program initiated the “Coral Revive Project,” a coral reef conservation pilot project around Sabahtar Island, Nga Yoke Kaung Town, Nga Pu Taw Township, Ayeyarwady Region. Spanning approximately 3.69 square kilometers (1.43 square miles),



the project aims to protect coral reefs while minimizing socio-economic impacts on local fishermen and encouraging long-term community engagement. The initiative also seeks to empower local communities to take active ownership of conservation efforts.

Since the project's launch, the PIP CSR Team has collaborated closely with government agencies, local communities, and marine experts to implement the pilot project. A comprehensive progress report detailing the activities and outcomes of the coral reef conservation project from April 2024 to November 2024 has been developed by the PIP CSR Team.



This report provides a comprehensive account of the coral reef conservation initiatives undertaken by the PIP CSR Program, emphasizing MPRL A-6's commitment to environmental stewardship and sustainable development in Myanmar. The efforts outlined in this document reflect a collaborative approach involving local communities, government agencies, academic institutions, and marine science experts to protect and restore coral ecosystems around Gaw Yan Gyi Island and beyond.

Key Achievements

1. Community Engagement and Capacity Building

- Conducted preliminary stakeholder engagements in Gaw Yan Gyi, gathering insights on coral reef challenges and local conservation needs.
- Organized awareness events, workshops, and skill-building sessions, including scuba diving training for local volunteers, to empower community members as active participants in conservation efforts.

2. Pilot Project Launch and Implementation

- Launched the coral reef conservation pilot project in April 2024 through a Birds of a Feather session with over 40 participants from diverse sectors.
- Established a coral reef mapping initiative, formed three local conservation teams, and recruited volunteers for a Community Watch Program.

3. Government Collaboration and Institutional Partnerships

- Engaged with government agencies, including the Forest and Fisheries Departments, to align conservation efforts with regional plans.
- Submitted a comprehensive project proposal to the Ayeyarwady Region Chief Minister, securing approval for the implementation of initiatives at Sabahtar Island.



4. Coral Reef Restoration Efforts

- Deployed artificial reefs and coral nursery structures to enhance marine biodiversity and create breeding grounds for marine life.
- Conducted underwater cleanups and seagrass recultivation activities to stabilize marine ecosystems.

5. Expanding Conservation Initiatives

- Extended conservation efforts to Ngwe Saung, hosting awareness events and diving assessments that engaged 80 participants, including government officials, academics, and local stakeholders.

6. Promoting Awareness and Long-Term Commitment

- Installed awareness signboards and floating markers to encourage responsible marine practices.
- Hosted a Community Action Day, combining conservation activities with stakeholder workshops to foster collaboration and sustain momentum.

Impact and Strategic Direction

The pilot project has successfully laid the groundwork for long-term coral reef conservation by fostering community involvement, building local capacity, and strengthening partnerships with government and academic institutions. These initiatives reflect MPRL A-6's vision of integrating social responsibility with environmental sustainability, ensuring that marine ecosystems are preserved for future generations.

Looking ahead, the PIP CSR Program remains committed to scaling these efforts, addressing challenges, and enhancing the ecological and socio-economic benefits of coral reef conservation in Myanmar.





2. Introduction

Myanmar's coastline, extending over 2,280 kilometers, is not only an essential asset for the nation's food security but also a critical contributor to its economy as the world's 12th largest fisheries producer. The sustainability of these resources is paramount, as they directly support livelihoods and contribute to the nation's biodiversity. Effective management of these marine ecosystems is, therefore, a strategic imperative to secure both environmental and economic resilience for future generations.

The western coastline of the Ayeyarwady Region stands out as one of Myanmar's most ecologically significant areas. Home to coral reefs, seagrasses, mangroves, and other vital marine habitats, this region is a biodiversity hotspot. These ecosystems not only support marine life but also offer immense potential for sustainable tourism, creating a direct link between conservation and local economic development. However, the rapid growth of tourism and human activity poses significant risks, particularly to fragile coral reef systems, which are already under threat from climate change and unsustainable practices.

Coral reefs play a fundamental role in protecting coastal ecosystems, supporting marine biodiversity, and sustaining the livelihoods of local communities through fisheries and tourism. However, the global decline of coral reefs, including those in Myanmar, underscores the need for proactive conservation strategies. The urgency of this situation calls for coordinated and scalable conservation actions that balance ecological health with socio-economic benefits.

Myanmar is an active participant in global conservation efforts, notably through its membership in the International Coral Reef Initiative (ICRI). As part of this international network, Myanmar is committed to preserving 75% of the world's coral reefs by promoting best practices, enhancing conservation capacity, and raising public awareness. Domestically, multiple governmental agencies play pivotal roles in managing and conserving marine resources. These efforts, however, require alignment and strategic integration to effectively address the challenges facing Myanmar's coastal ecosystems, particularly the western Ayeyarwady coastline.

A 2017 study, *Marine Resources of Nga Yoke Kaung Bay*, highlighted the urgent need for conservation zones to protect the rich biodiversity along the Ayeyarwady coast. Despite



housing over 200 coral species, the region's reefs are facing alarming degradation. Areas like Gaw Yan Gyi, within Nga Yoke Kaung Bay, are particularly at risk, requiring immediate and strategic intervention to prevent further ecological collapse and safeguard the livelihoods of local communities who depend on these marine resources.

In response, MPRL A-6 Limited has taken decisive action through its Corporate Social Responsibility (CSR) Program by launching the Coral Revive pilot project in 2024. This strategic initiative, located near Gaw Yan Gyi Island, approximately 30 kilometers off the western coast of Ngwe Saung Beach, aims to restore coral reefs and seagrasses while fostering sustainable development in the region. The project aligns with national and international conservation targets, particularly the Aichi Biodiversity Targets, and represents a model of how corporate responsibility can drive large-scale environmental and socio-economic change.

Strategic Objectives:

- **Create a Locally Managed Coral Reef Conservation Area** to ensure long-term protection of critical marine ecosystems and establish a framework for sustainable management.
- **Restore Coral Reefs and Seagrasses** within the conservation area to improve biodiversity, enhance marine life, and support the recovery of fish stocks, ensuring the resilience of the ecosystem.
- **Foster Public Awareness and Community Engagement** by empowering coastal communities with the knowledge and tools to manage their natural resources sustainably and improve their socio-economic conditions.
- **Develop Sustainable Marine-Based Ecotourism** as a long-term revenue stream that supports both conservation and local economic development.
- **Support Myanmar's Commitment to Marine Protection**, contributing to the goal of protecting 10% of the country's marine and coastal areas by 2025, as per Target 11 of the Aichi Biodiversity Targets.



Expected Strategic Outcomes:

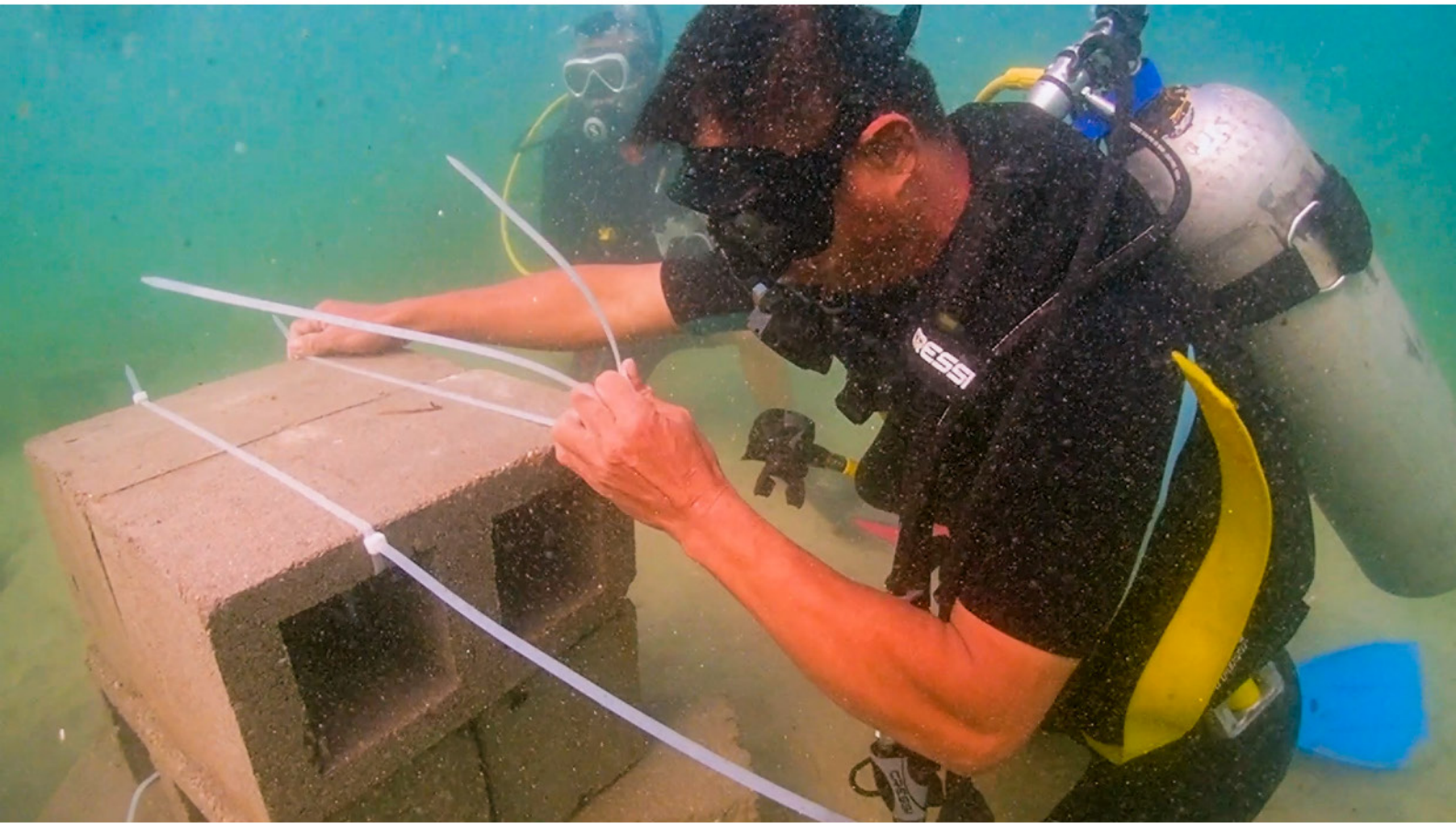
- **Sustainable Conservation:** Ensure the long-term protection and restoration of coral reefs and seagrasses through effective management strategies and monitoring.
- **Increased Local Awareness:** Cultivate a deep sense of ownership and responsibility among local communities, with increased participation in conservation activities and sustainable resource management.
- **Expansion of Coral Nurseries:** Establish a network of coral nurseries to propagate diverse coral species and create a scalable model for restoration that can be replicated across other regions.
- **Enhanced Marine Biodiversity:** Revive ecosystems that provide vital habitats for endangered species such as dugongs, sea turtles, and other threatened marine life, while promoting the recovery of fish populations.
- **Support for Sustainable Fisheries:** Establish the conservation area as a critical nursery ground for fish larvae, supporting marine species reproduction and enhancing fisheries productivity.
- **Ecotourism Development:** Position the conservation area as a sustainable ecotourism destination, contributing to long-term economic growth while preserving the integrity of the marine environment.
- **Empowerment of Local Communities:** Equip local communities with the skills and resources to manage the conservation area independently, enabling them to benefit from tourism-related services and job creation.

The Coral Revive project is not only a direct response to the immediate threats facing Myanmar's coastal ecosystems but also a strategic investment in the country's long-term environmental, economic, and social resilience. Fully funded by MPRL A-6 Limited, this initiative exemplifies how corporate leadership can drive systemic change and contribute to national conservation goals. The pilot phase has already made significant strides, leveraging collaboration between government agencies, local communities, marine experts, and private sector stakeholders to achieve shared conservation objectives.



The establishment of a Locally Managed Coral Reef Conservation Area around Sabahtar Island in the Gaw Yan Gyi region marks a pivotal step towards creating an effective model for marine protected areas. Covering 3.69 square kilometers (1.43 square miles), this experimental micro marine protected area is designed to integrate conservation with community interests, ensuring minimal disruption to local fishing activities. Running from 2024 to 2026, this initiative will serve as a scalable model for future conservation efforts.

As of November 2024, the Coral Revive project has made notable progress, with successful community engagement and tangible improvements in conservation practices. Moving forward, MPRL A-6 Limited remains committed to expanding this initiative, driving sustainable change, and ensuring that Myanmar's marine ecosystems thrive for generations to come.



3. Summary of the Performance Progress

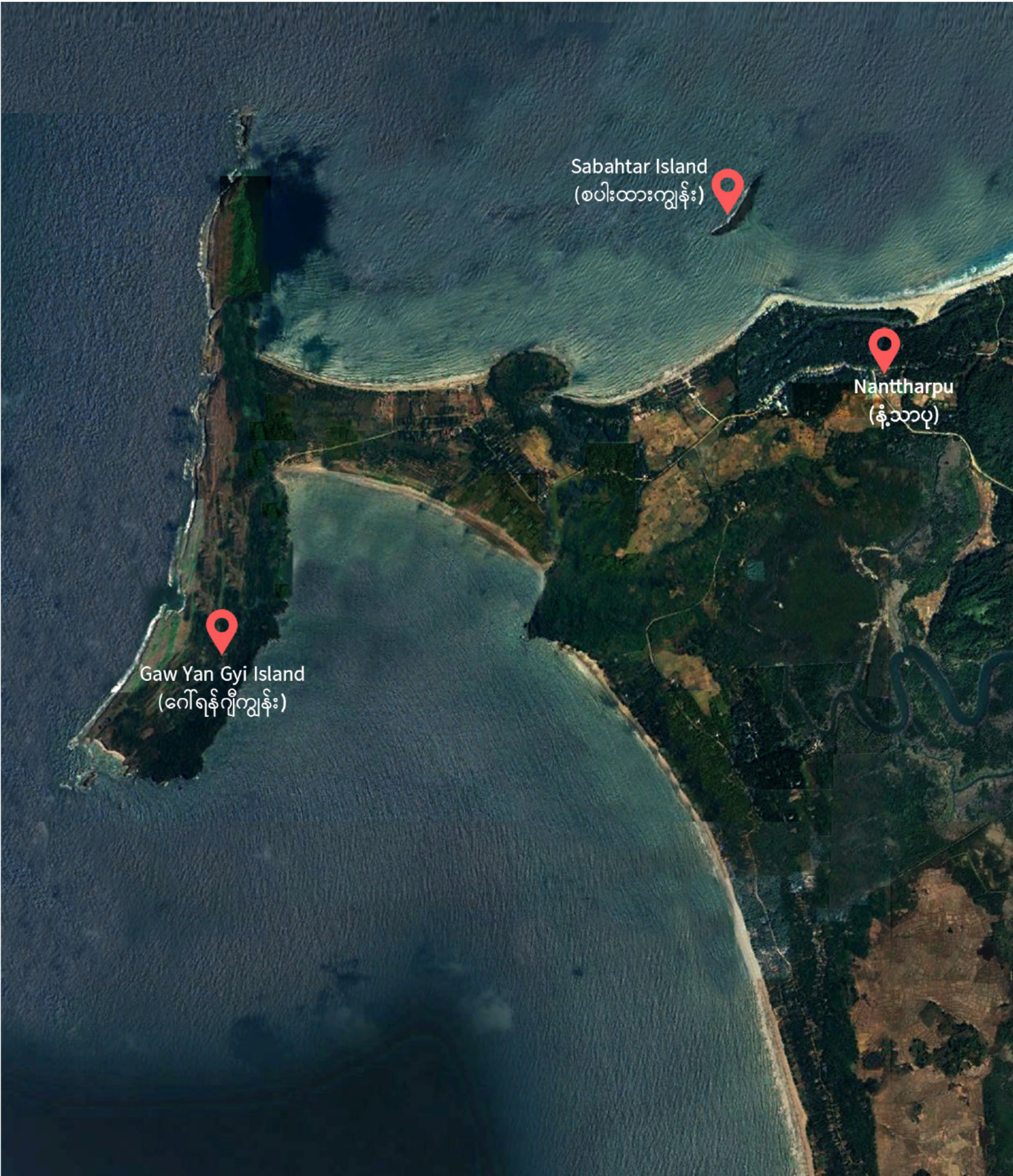
The PIP CSR Program’s efforts in coral reef and marine ecosystem conservation across Gaw Yan Gyi, Ngwe Saung, and Sabahtar Island have demonstrated a strategic, impactful approach through the integration of local communities, government collaboration, and scientific expertise. These initiatives have laid the groundwork for ongoing conservation activities that aim to restore and protect Myanmar’s precious marine biodiversity, fostering a culture of sustainability and shared responsibility.

Establishment of a Coral Revive Project Team: Roles and Responsibilities

No.	Team	Name	Roles & Responsibilities
1.	Project Development Team	MPRL A-6 Limited (PIP – CSR) <ul style="list-style-type: none"> • Daw Wit Hmone Tin Latt • Saw Eh Hsar Blute Htoo • Naw May Pale Htoo • Daw Pyae Pyae Phyo • U Kyaw Nyein Chan • Saw Christopher • Daw Kay Khine Moe 	<ul style="list-style-type: none"> • Manage the project budget, monitor expenses, and ensure the project stays within budget. • Make decisions to keep the project on track. • Communicate regularly with local stakeholders and provide project updates. • Communicate with upper management and other stakeholders. • Provide administrative support to the project team, including arranging travel, scheduling meetings, and collecting, organizing, and maintaining project data. • Facilitate communication and collaboration among team members. • Organize monthly and periodic team meetings. • Maintain project documentation and provide status reports.
2.	Technical Lead & Consultants	<ul style="list-style-type: none"> • Dr. Cherry Aung • Dr. Aung Aung Aye • U Mg Mg Wai Phyo 	<ul style="list-style-type: none"> • Collaborate with the Project Development Team to create detailed technical plans and timelines. • Provide technical direction and ensure alignment of technical solutions to the project team. • Identify risks and develop mitigation strategies.



			<ul style="list-style-type: none"> • Conduct training sessions and workshops for the project team. • Provide training sessions on reporting tools, data collection tools and processes, and standards. • Analyze project data to identify trends, issues, and provide insights and recommendations based on result data. • Provide executive summaries and detailed reports on project progress, risks, and issues. • Train local volunteers and new divers in coral restoration techniques and best practices. • Data processing: sample identify, measurements, and observations, data input, seed collection for corals and seagrass.
3.	Technical Diving Team	<ul style="list-style-type: none"> • U Naing Myo San (Ko Joe) • U Nyan Lin Aung • U Min Maung • U Myo Myat Kyaw • Daw Nadi Khin 	<ul style="list-style-type: none"> • Provide training and support to local divers, including equipment handling and emergency assistance. • Ensure all dives comply with safety standards and protocols and conduct pre-dive safety briefings and post-dive debriefings. • Analyze data collected during dives, such as samples, measurements, and observations.
4.	Community Watch Program	<p>Local Diver Team</p> <ul style="list-style-type: none"> • U Kyaw Min Tun • U Zaw Zaw Naing • U Win Htay 	<ul style="list-style-type: none"> • Collect data on coral health, growth rates, and survival rates required by the project and document findings and observations accurately. • Perform regular underwater checks to monitor the health and growth of transplanted corals.





3.1. Gaw Yan Gyi Area – Coral Reef Conservation Pilot Project

Location: Gaw Yan Gyi Island, Ayeyarwady Region

Initiatives:

- **Preliminary Community Engagement (2023):** Engaged local communities, including fishermen, leaders, and social workers, to assess current conditions and raise awareness.
- **Birds of a Feather (BoF) Session (April 2024):** Launched the coral reef conservation pilot project with a community-based approach, engaging 40 local stakeholders, including government officials, fishermen, and marine experts.
- **Coral Mapping & Community Watch (April 2024):** Collaborated with local participants to map coral reefs and establish Coral Revive Project Team.
- **Diving Skills Enhancement (July 2024):** Provided scuba diving training to three local divers, preparing them for active participation in conservation activities.
- **Artificial Reef and Coral Nursery Test Launch (October 2024):** Deployed artificial reefs and coral nursery structures to enhance marine biodiversity.
- **Community Action Day (November 2024):** Focused on coral awareness and conservation, including beach and underwater cleanup, seagrass recultivation, and coral-awareness signboard installation.

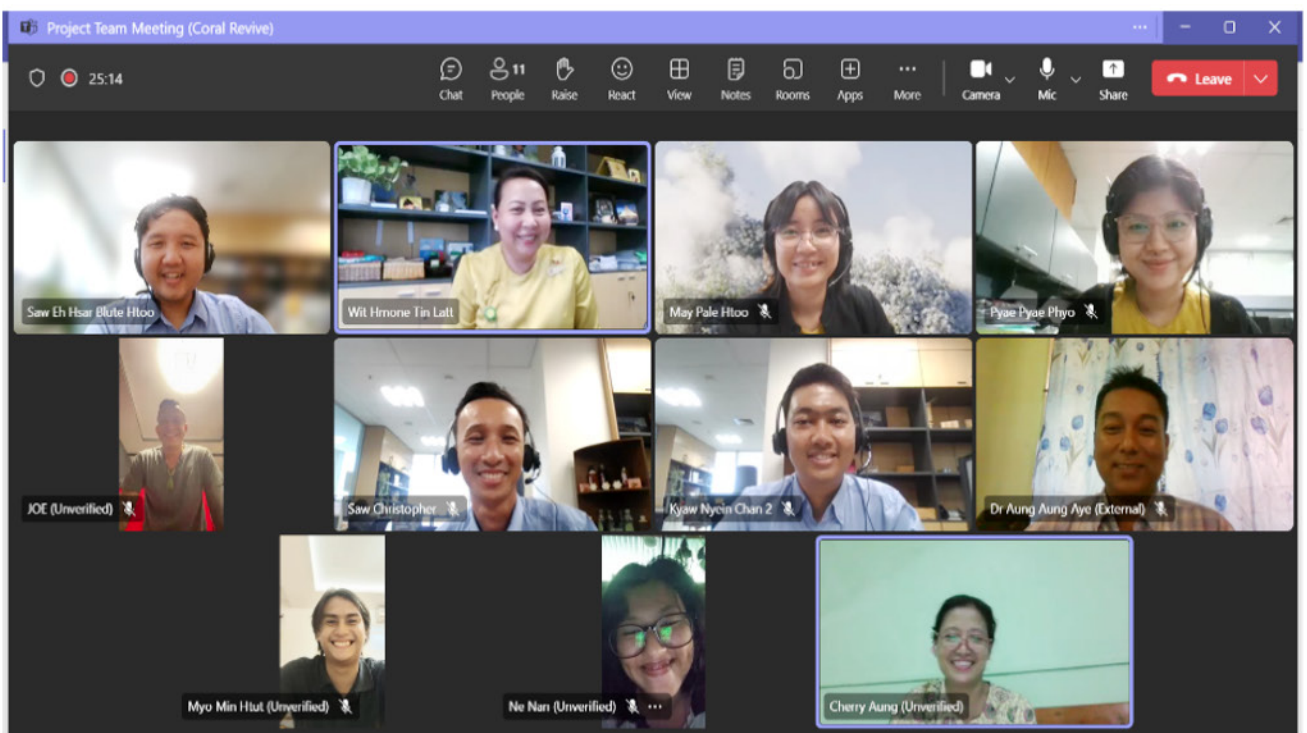
Outcomes:

- **Community Involvement:** Established Coral Revive Project Team and trained local divers to take ownership of conservation efforts.
- **Coral Mapping and Site Selection:** Successful identification of Sabahtar Island as a conservation pilot site.
- **Infrastructure Development:** Deployed eight artificial reefs, two coral nursery frames, and multiple seagrass bags to restore coral ecosystems.



Impact by Thematic Areas:

- **Ecological Impact:**
 - Created new breeding grounds for marine life, supporting coral restoration and biodiversity recovery.
 - Enhanced marine ecosystem health through coral inspections, cleanup activities, and seagrass restoration.
- **Community Engagement:** Empowered local communities through hands-on involvement and training, fostering long-term sustainable practices.
- **Capacity Building:** Enhanced local volunteer divers' skills, ensuring active community participation in conservation and monitoring.
- **Sustainability:** Promoted sustainable practices by installing signboards and hosting hands-on conservation activities that increase community participation.



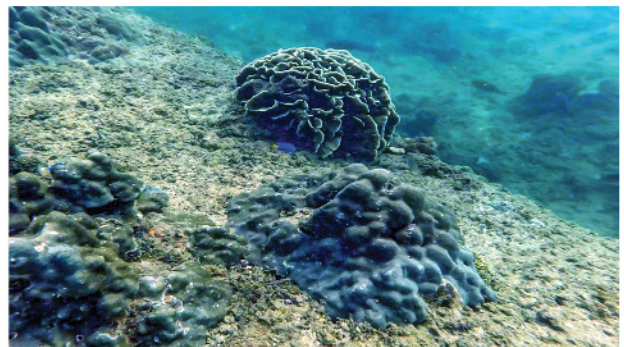
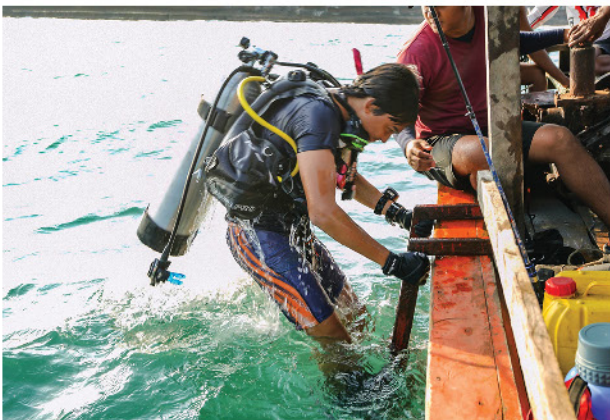
Conducting Preliminary Engagement Meetings with Local Communities, and Project Team Members

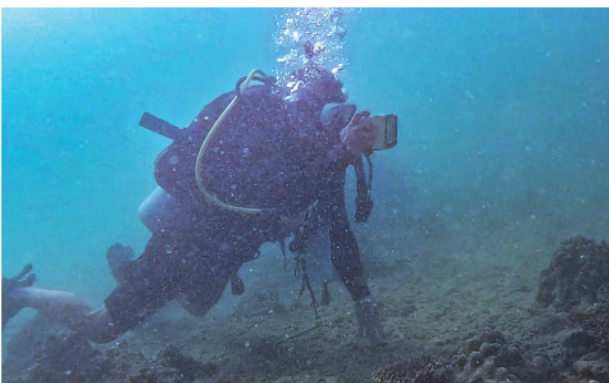
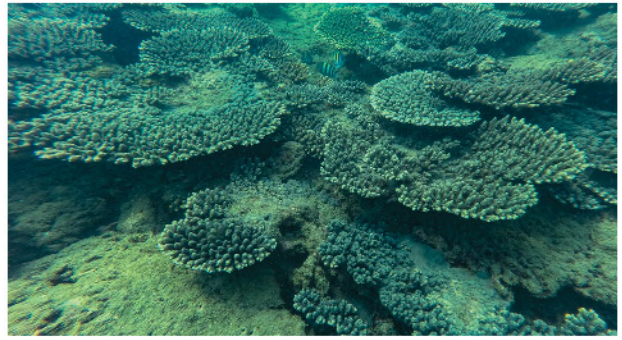


Organizing Birds of a Feather (BoF) Session on Coral Reef Conservation Pilot Project at Gaw Yan Gyi Area

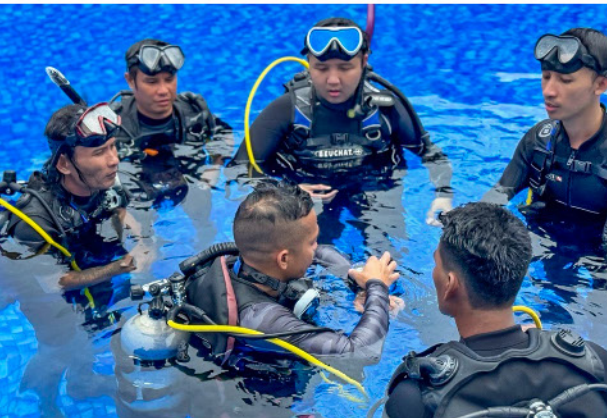


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Conducting Diving Survey and Coral Inspection around Gaw Yan Gyi Area





Providing DSD Pool Training and Open Water Diving Training for Local Volunteer Divers

Testimonials



U Naing Myo San

(PADI Certified Diver)



“My name is Naing Myo San, but most people call me Ko Joe. I am 41 years old and have been teaching diving courses since 2022. I first heard about the coral reef conservation pilot project from my friend Ko Nyan, and I decided to join in offering diving training to local residents as part of MPRL A-6’s PIP CSR Program.

At the outset, I was worried that the weather might pose a significant challenge, but things went smoothly as anticipated. I was thrilled to share my knowledge with local divers and to contribute to environmental conservation.

The course was specially designed for local residents, with easy-to-understand training methods. Because many participants already had some experience diving in the sea, they made impressive progress during the training. They were enthusiastic and keen to learn. Although they were initially not very familiar with the diving equipment, I believe that with more practice, they’ll become quite adept at using it. Their improvements during the written and practical tests were very encouraging.

I appreciated the support provided by MPRL A-6’s PIP CSR Program, which took care of our transportation, meals, and accommodation throughout the course. I’m particularly impressed with the company’s leadership in supporting initiatives like coral reef conservation, which might not usually attract widespread attention. Their efforts to involve local community members in this important work are commendable.

The coral reef conservation pilot project is essential. To ensure its success, we need to build artificial coral reefs with strong foundations, carefully monitor and manage them, and raise awareness within the local community about their importance.”



U Kyaw Min Tun
(Local Volunteer Diver)



“My name is Kyaw Min Tun, I am 42 years old, and I live in Chaing Kalay Ward of Nanttharpu Village Tract. I work as a fisherman and have been diving since I was 19 years old.

I was excited to attend this diving training course, which aligns perfectly with my career and interests. In this course, we learned the theory behind diving equipment and the dos and don'ts of diving. During hands-on training, we practiced 24 essential skills for underwater diving. Initially, I faced some challenges as I had never dived using air tanks before. However, after completing the course, I now feel more comfortable with the diving equipment.

Before attending the course, I only knew how to dive using a compressor and was unaware of safer diving methods. The course taught me how to use diving equipment and adopt safer techniques for diving. Diving with a compressor required me to wear a belt and rely on both the person operating the compressor and the machine on the boat, which felt more dangerous. Using diving equipment offers greater safety, making the experience both safer and more liberating. One memorable experience during open water diving training was when we had to search for each other underwater due to poor visibility caused by bad weather.

I learned about the coral reef conservation pilot project organized by MPRL A-6's PIP CSR Program through my friend Ko Zaw Zaw Naing, who encouraged me to participate. The company provided teaching materials, food, and covered the full cost of transportation. I am grateful for the opportunity to attend this training course in my own region.

From what I have observed, the condition of coral reefs in this area is deteriorating. By protecting and preserving the coral reefs, we can help increase fish populations and reduce coral damage. This could also mitigate natural disasters. As a member of the local community, I believe the coral reef conservation pilot project will greatly benefit our region. Therefore, I am committed, not just as a local resident but also as a diver, to contribute to the project in any way necessary.”



U Zaw Zaw Naing

(Local Volunteer Diver)

“My name is Zaw Zaw Naing, I am 45 years old, and I live in Ahlel Khone Ward of Nanttharpu Village, where I work as a fisherman. I have been diving since I was 18 years old. Using diving equipment offers several advantages, making it more reliable and allowing me to move more freely. I also find it to be more systematic and efficient.

During the diving training, we learned how to communicate with each other while diving and gained a deeper understanding of how to use diving equipment. We also covered essential safety behaviors for diving in the sea. One memorable experience from the course was when we had to search for each other during open water diving due to bad weather.

I am grateful for the opportunity to attend the diving course and would like to thank both the trainer and the company for organizing it. I am satisfied with the knowledge I gained, especially in using diving equipment. I now know how to communicate underwater using hand signals and how to properly use diving equipment. Before attending the course, we only knew how to dive using a compressor, focusing on the convenience of our current work rather than on safe diving practices.

I learned about the coral reef conservation pilot project organized by MPRL A-6’s PIP CSR Program through the village committee members. I joined the project because I want to protect and preserve the natural resources in our region. I am pleased with the company’s efforts to make everything convenient throughout the course. I noticed different types of coral reefs, and it is evident that many of them have been destroyed over time due to various factors. By protecting and preserving coral reefs, we can create more breeding grounds for marine life and reduce natural disasters. In the long run, this will also help local fish populations to thrive again. As a member of the local community, I am proud to be part of the coral reef conservation pilot project. As a local diver, I am committed to assisting with underwater activities and will provide all-around support for the project wherever needed.”

**U Win Htay**

(Local Volunteer Diver)

“My name is Win Htay, I am 44 years old, and I live in Nanttharpu Village where I work as a fisherman. I have been diving for about 10 years. Diving with proper equipment makes me feel much safer. The knowledge I gained from the diving training has enhanced my confidence even further. Before this training, we relied on compressors for diving, but now we understand the dangers involved.

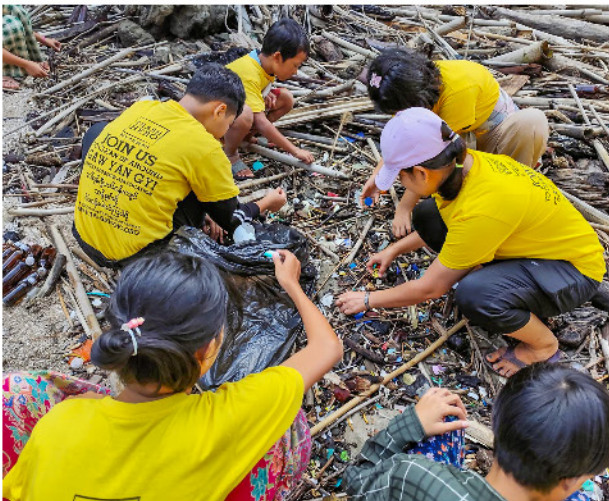


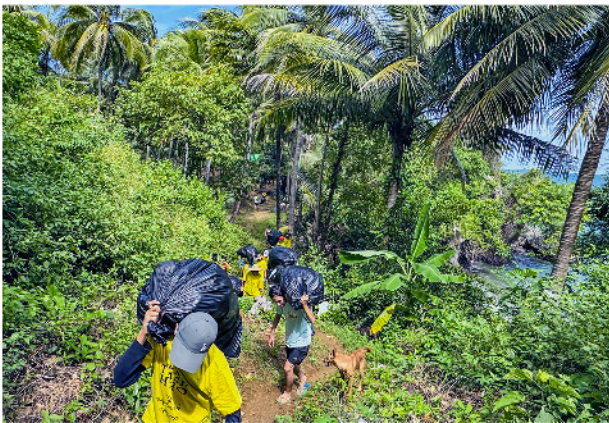
I was pleased to receive a systematic diving course where I learned how to use diving equipment effectively. The course covered both theoretical and practical aspects of using diving equipment and following proper diving instructions. Although I initially faced some challenges because I was accustomed to the old methods of diving, I am now satisfied with my ability to follow the trainer’s instructions. I have learned to dive using modern equipment, gained experience in extended underwater diving, and learned safety protocols and underwater communication signals.

I joined the coral reef conservation pilot project organized by MPRL A-6’s PIP CSR Program after being informed by Ko Zaw Zaw Naing. I was eager to participate in this project, along with Ko Kyaw Min Tun and Ko Zaw Zaw Naing, with whom I had previously dived.

I am grateful for the support provided by MPRL A-6’s PIP CSR Program, which covered all aspects of the training, including food, course materials, and transportation expenses. Our trainer was clear, patient, and easy to understand, making the learning process smooth.

In the past, coral reefs in this region were much more abundant, especially near the larger and smaller islands with less human contact. However, due to natural hazards and human activities, these reefs have significantly declined. By protecting and preserving coral reefs, we can prevent underwater natural disasters and keep our beaches clean. Coral reefs serve as refuges for marine life, so their conservation will help aquatic life thrive. As a local, I believe the coral reef conservation pilot project is a valuable initiative that will enhance the beauty of our beaches. As a local diver, I am committed to contributing to the project in any way necessary.”







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Organizing Beach and Underwater Cleanups at Gaw Yan Gyi Area



Organizing Project Status Review and Stakeholder Communication Workshop



Installing Coral Awareness and Conservation Signboards in Key Locations around Gaw Yan Gyi Area





3.2. Collaboration with Government and Academic Institutions

Location: Pathein and Ayeyarwady Region

Initiatives:

- **Government Engagement (July - August 2024):** Collaborated with regional government departments, including the Forest Department, Department of Fisheries, and Environmental Conservation Department, to align the coral reef conservation project with regional development plans.
- **International Day for Mangrove Conservation (July 2024):** Supported and participated in the International Day for Mangrove Ecosystem conservation at Pathein University, exploring future collaborations with academic institutions.
- **Coral Conservation Proposal (July - August 2024):** Developed and submitted a comprehensive conservation proposal to the Chief Minister of the Ayeyarwady Region, seeking approval for further project development.

Outcomes:

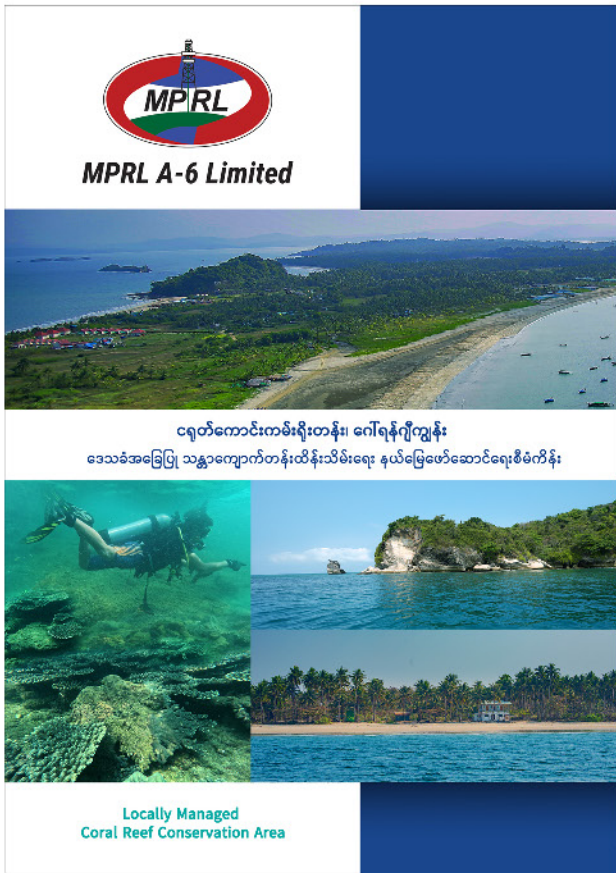
- **Policy Support:** Gained regional government backing for the coral reef conservation project at Sabahtar Island.
- **Academic Collaboration:** Initiated discussions for future joint efforts with Pathein University in marine and coastal ecosystem conservation.
- **Strategic Alignment:** Ensured that conservation efforts were aligned with regional plans, enhancing sustainability and long-term impact.

Impact by Thematic Areas:

- **Government Relations:** Strengthened ties with local and regional authorities, ensuring governmental support and alignment with conservation objectives.
- **Research and Knowledge Sharing:** Promoted collaboration with academic institutions for research, data collection, and educational outreach.
- **Strategic Leadership:** Positioned the project as a model for sustainable conservation initiatives through strong government and academic partnerships.



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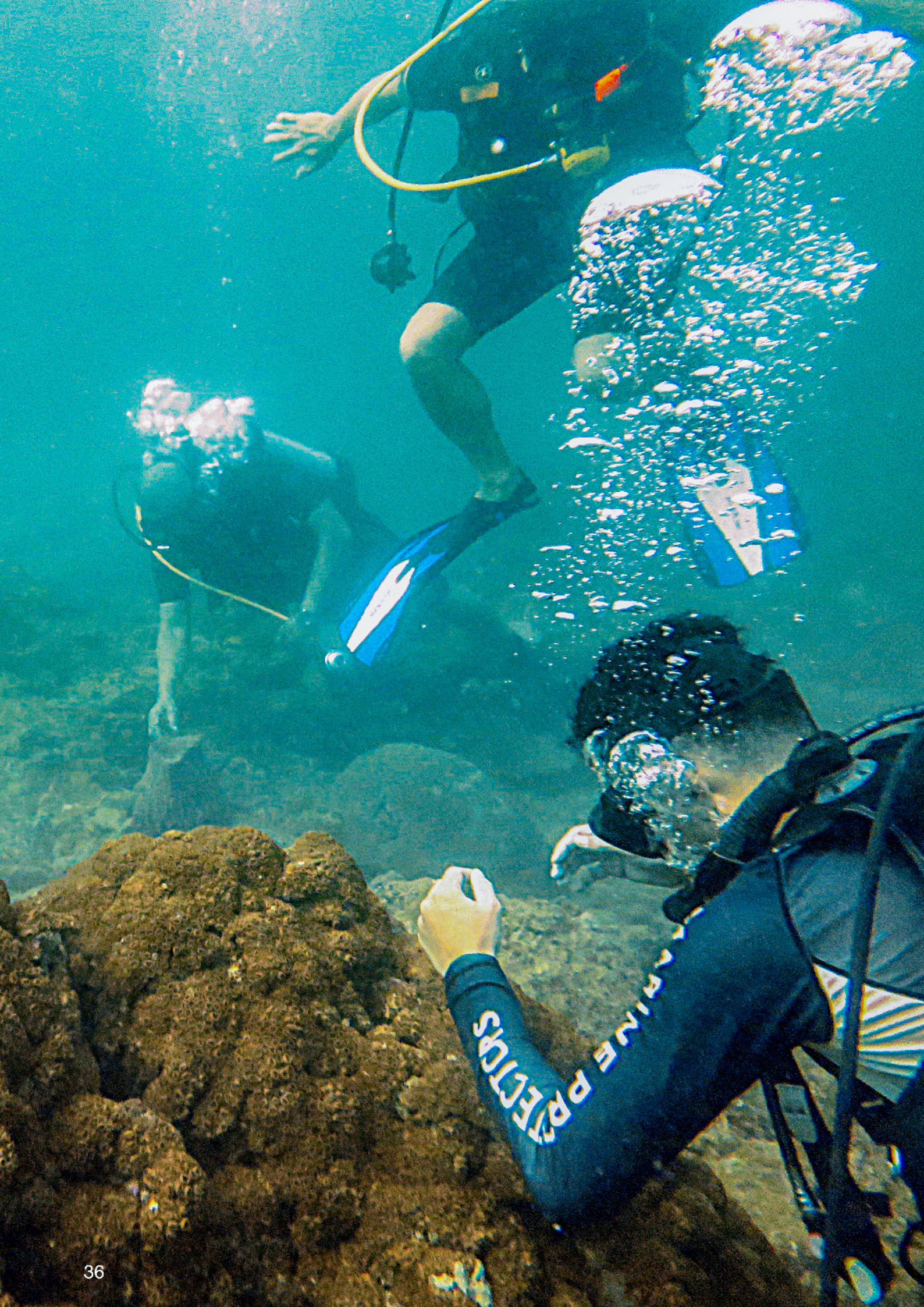
Presenting Coral Reef Conservation Pilot Project and Submitting Project Proposal to the Chief Minister of the Ayeyarwady Region



Participating in International Day for the Conservation of the Mangrove Ecosystem at Patheingyi University



Meetings with Directors from the Forest Department, Department of Fisheries, Environmental Conservation Department, and Directorate of Hotels and Tourism, and Head of Marine Science Department at Pathein University



3.3. Test Launch of Artificial Reefs and Coral Nursery Structures

Location: Sabahtar Island, Nga Yoke Kaung Town

Initiatives:

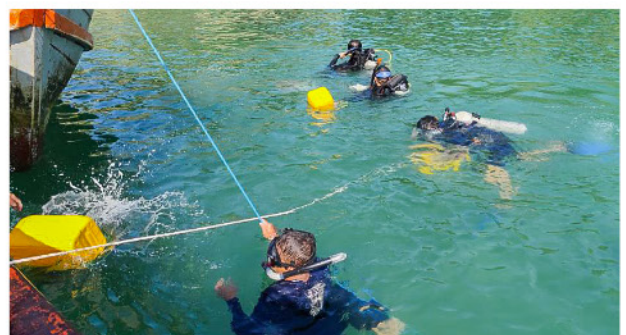
- **Design and Deployment of Artificial Reefs (October 2024):** Conducted a test launch of artificial reef structures and coral nursery frames, including underwater deployment and monitoring.
- **Collaboration with Volunteers (October 2024):** Engaged local divers and volunteers in the preparation, deployment, and monitoring of these structures.
- **Monitoring and Evaluation (Ongoing):** Regular monitoring of the artificial reefs and coral nursery structures to track progress and effectiveness.

Outcomes:

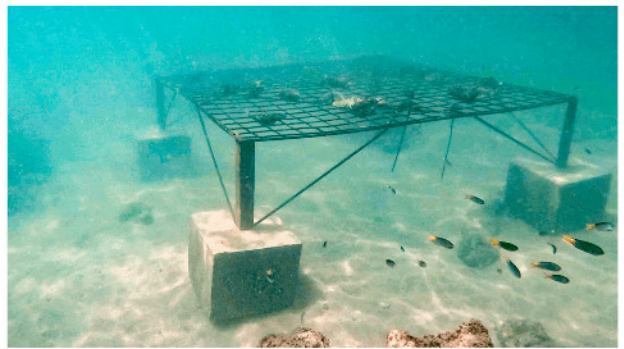
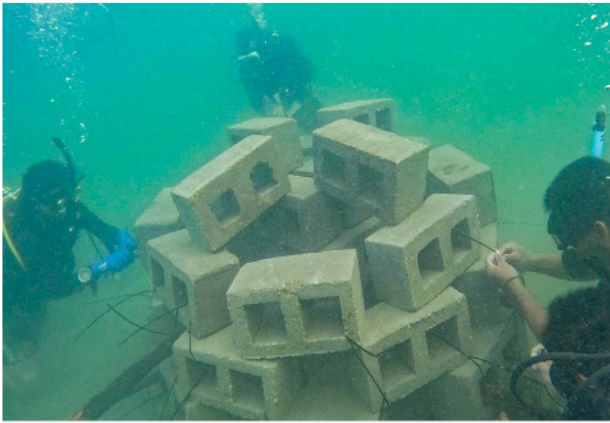
- **Infrastructure Development:** Successfully deployed artificial reefs and coral nurseries to support marine life regeneration.
- **Local Volunteer Engagement:** Trained and involved local divers in the deployment process, fostering community ownership of conservation efforts.

Impact by Thematic Areas:

- **Marine Ecosystem Restoration:** Contributed to coral restoration by creating new habitats for marine life.
- **Community Capacity Building:** Increased local volunteer capacity through hands-on involvement in deployment and monitoring.
- **Long-Term Sustainability:** Set the foundation for ongoing coral regeneration efforts, providing sustainable solutions for reef recovery.



Preparing for Test Launch of Artificial Reefs and Coral Nursery Structures



Conducting Test Launch of Artificial Reefs, Coral Nursery Structures, Floating Buoys and Signal Lights around Sabahtar Island



Conducting Test Launch of Artificial Reefs, Seagrass Recultivation, and Floating Signboard Installation around Sabahtar Island



Bird Island
(ငှက်ကျွန်း)

Kyun-Lyar-Shay Island
(ကျွန်းလျားရှည်)

Ngwe Saung
(ငွေဆောင်)



3.4. Ngwe Saung Area – Coral Reef Awareness and Assessment

Location: Ngwe Saung, Ayeyarwady Region

Initiatives:

- **Coral Reef Awareness Event (September 2024):** Hosted a large-scale awareness event at Ngwe Saung Yacht Club & Resort, involving government agencies, academic institutions, and local stakeholders.
- **Coral Reef Inspection (September 2024):** Conducted coral reef assessments at Kyun-Lyar-Shay and Bird Islands, engaging local divers and marine experts to evaluate the reef conditions.

Outcomes:

- **Awareness Building:** Reached 80 participants, significantly raising awareness about coral conservation.
- **Coral Health Assessment:** Collected valuable data on coral reef health in Ngwe Saung for future conservation planning.
- **Increased Community Involvement:** Actively engaged locals in conservation activities, fostering a sense of shared responsibility.

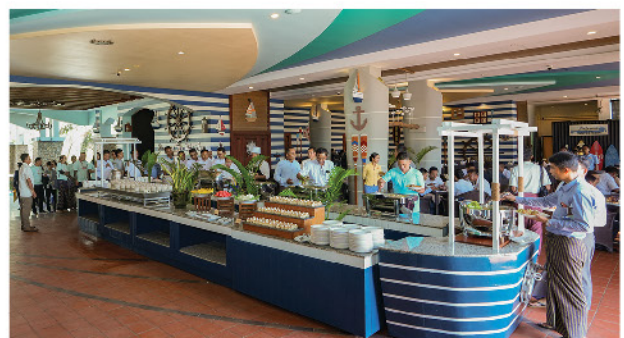
Impact by Thematic Areas:

- **Ecological Impact:** Enhanced marine ecosystem health through coral inspections.
- **Community Engagement:** Strengthened collaboration among local communities, government agencies, and academic institutions to protect marine ecosystems.



MPRL A-6 Limited





Organizing Coral Reef Awareness Raising and Information Exchange Workshop at Ngwe Saung Yacht Club & Resort

Testimonials



U Thein Zaw

Township Administrator

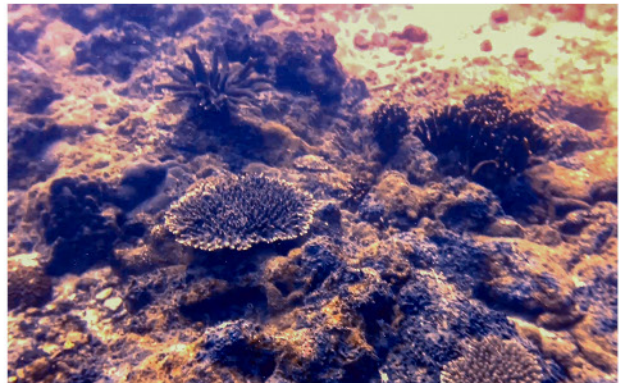
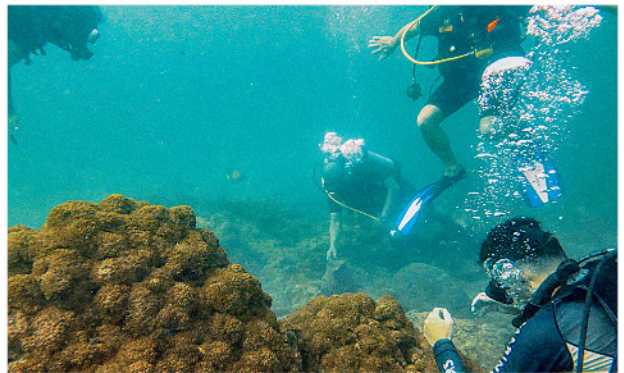
Ngwe Saung General Administration Department

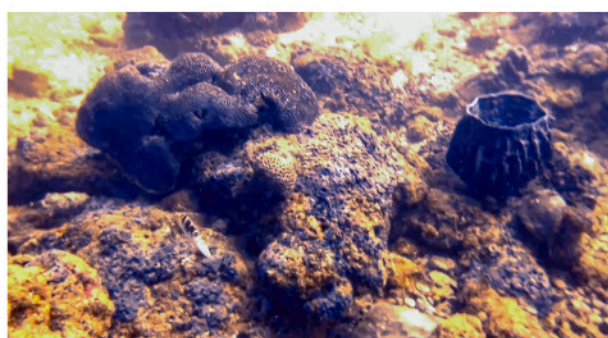
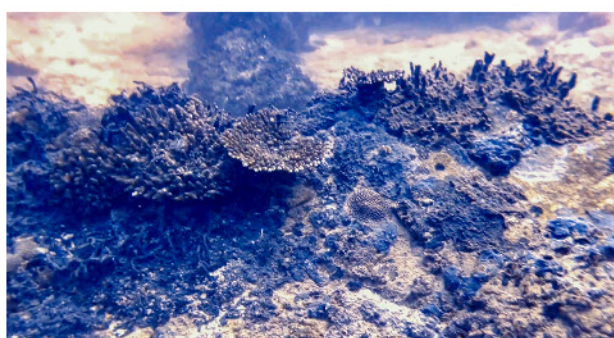
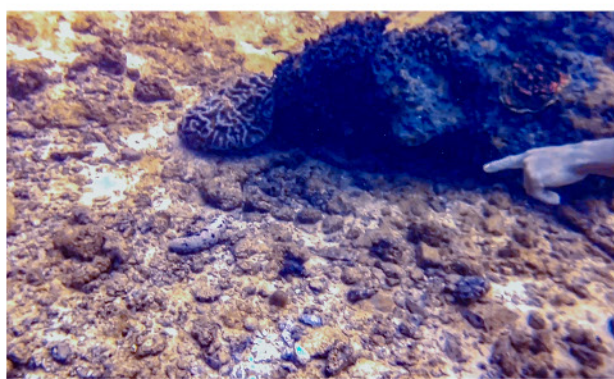
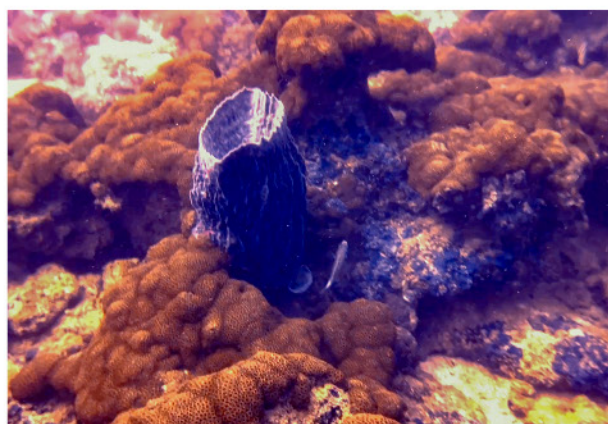
“This coral reef awareness event at Ngwe Saung is a valuable opportunity for our community. We know there are coral reefs near Ngwe Saung beach, as well as around Kyun-Lyar-Shay and Bird Islands. The Professors from Marine Science Departments have

given us a thorough explanation of these reefs, the causes of their destruction, and why conservation is so important. I believe this event is truly beneficial for us.

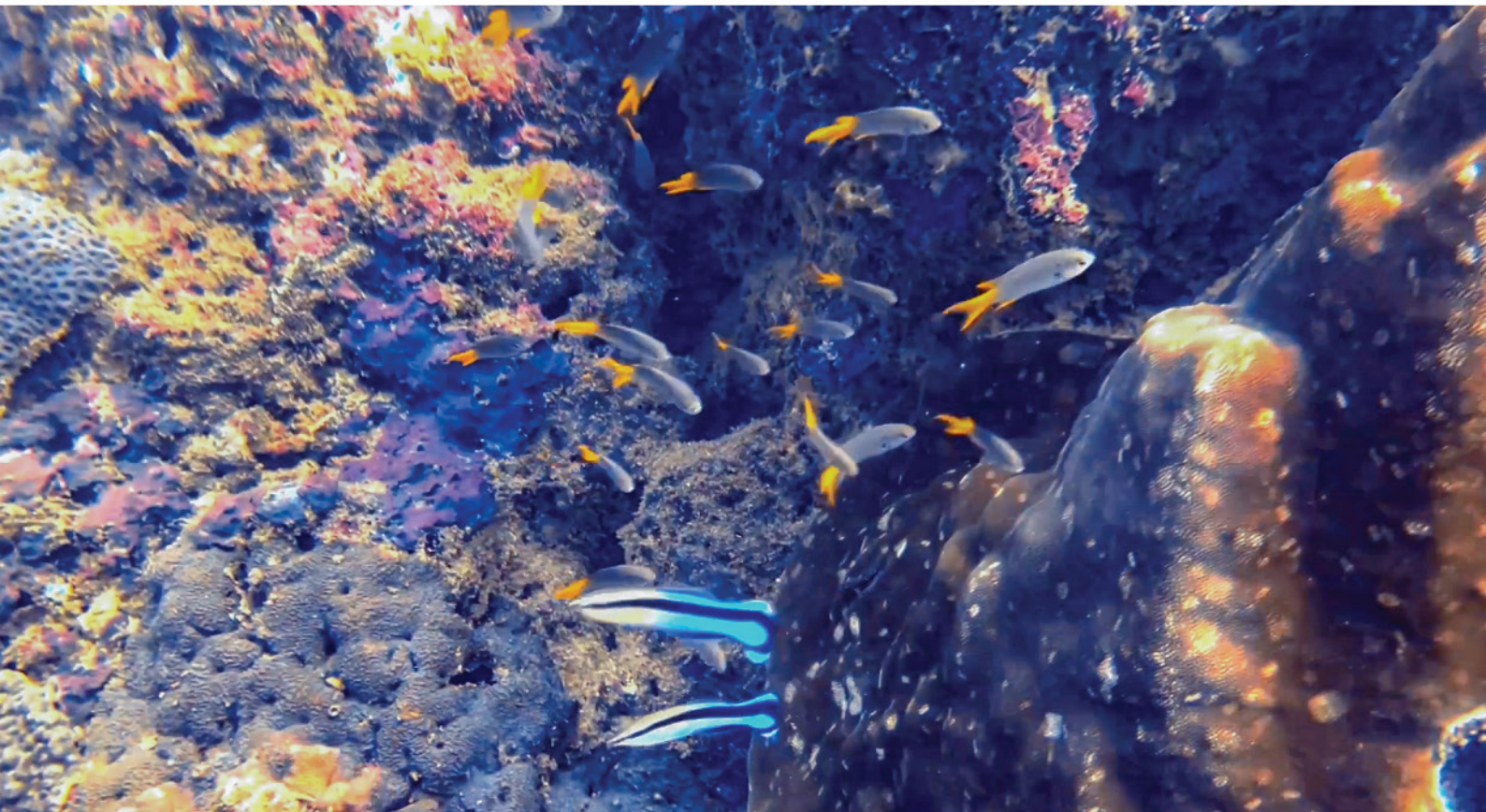
We hope that the coral conservation effort under the MPRL A-6’s PIP CSR Program will bring significant benefits to the Ayeyarwady Region. It has the potential to boost tourism, increase foreign income, and improve the livelihoods of our local community through tourism development. Moreover, it will help ensure the sustainability of our environment and marine ecosystem.

For coral reef conservation to succeed, we need a commitment to act, the right knowledge and expertise, and sufficient resources—both human and financial. Since MPRL A-6 is leading this project, we believe they meet these requirements. We, the government agencies, warmly welcome this coral conservation initiative led by the MPRL A-6’s PIP CSR Program. We are confident that if the local community gains enough awareness and knowledge, they will actively participate in these conservation efforts. The Ngwe Saung government bodies and local communities stand ready to collaborate fully in this conservation effort.”





Conducting Coral Inspection and Assessment Activities near Kyun-Lyar-Shay and Bird Islands in Ngwe Saung





Dr. Cherry Aung

Professor and Head of Marine Science Department
Myeik University

“Implementing the coral reef conservation project has been a dream of mine for many years. Our Marine Science Department started working on this after numerous discussions with MPRL A-6 company and the project finally began in 2023. The collabora-

tion with MPRL A-6 has allowed us to meet various needs and strike a balanced approach, which I believe has significantly increased our chances of success.

For this project to succeed, a solid strategy and the right technology are crucial. As a marine scientist, I have been supporting the project by developing the strategy, providing technical assistance, and conducting awareness activities to encourage local community participation. Our goal is to enhance the local marine environment and coral reef systems, creating better habitats for marine life, expanding the food chain, and increasing biodiversity. There is also great potential to boost nature-based tourism in the area.

I have seen locally managed conservation zones succeed in other countries, and I hope we can follow their example and expand coastal resource conservation here as well. By working together with MPRL A-6 on coral reef conservation, we aim to establish international-level coastal resource conservation groups and expert teams that will ensure sustainability.

I believe that great achievements often start with small efforts. I am confident that this coral reef conservation initiative, though it may be small now, will one day become a nationally recognized effort that we can all be proud of.”



အသိပေးချက်
သန္တာကျောက်တန်းများ
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(စက်လှေများမဖြတ်သန်းရကျောက်မချရ)



4. Monitoring and Evaluation (M&E) for Coral Reef Conservation

Monitoring and Evaluation (M&E) are integral to ensuring the success and sustainability of the coral reef conservation pilot project. Our PIP CSR Team conducts regular monitoring activities to track the health of the marine ecosystem, assess the effectiveness of restoration efforts, and engage the community in ongoing conservation efforts. These activities take place every ten days around Sabahtar Island and focus on the monitoring of artificial reefs, coral nurseries, and seagrass beds.

Key Purposes of M&E Activities:

- **Assessing Coral Health and Growth:**
 - Regular evaluation of transplanted corals' survival rates and growth.
 - Observing coral species diversity and monitoring fish populations and other marine life within the ecosystem.
- **Inspecting Coral Blocks:**
 - Identifying potential threats to coral blocks and addressing any issues to prevent damage.
- **Supporting Data-Driven Decision-Making:**
 - Using collected data to inform coral restoration strategies, optimize techniques, and evaluate long-term trends in coral reef health.
- **Enhancing Stakeholder Engagement:**
 - Involving local communities and volunteer divers in the M&E processes to build awareness and capacity for conservation.
- **Ensuring Long-Term Sustainability:**
 - Facilitating ongoing stewardship by regularly tracking reef health and engaging the local community in monitoring efforts.



Key M&E Activities:

- **Underwater Inspections by Local Volunteer Divers:**

- Every ten days, three trained local volunteer divers conduct underwater inspections of the coral restoration sites.
- Volunteers collect data on coral health, growth rates, and survival rates of transplanted coral species and seagrass.

- **Data Collection and Documentation:**

- Volunteers meticulously document findings, including photo and video records of the condition of artificial reefs, coral nurseries, and seagrass beds.
- Inspections also involve removing rock clams from coral blocks, ensuring no damage is caused to the restored ecosystem.

- **Repair and Maintenance:**

- Inspecting and repairing floating buoys, signal lights, and floating signboards to ensure continued visibility and safety for the restoration sites.

Monitoring Results Since October 2024:

- **Number of Monitoring Sessions:** Four underwater monitoring sessions have been conducted since the launch of artificial reefs in October 2024.

- **Key Findings:**

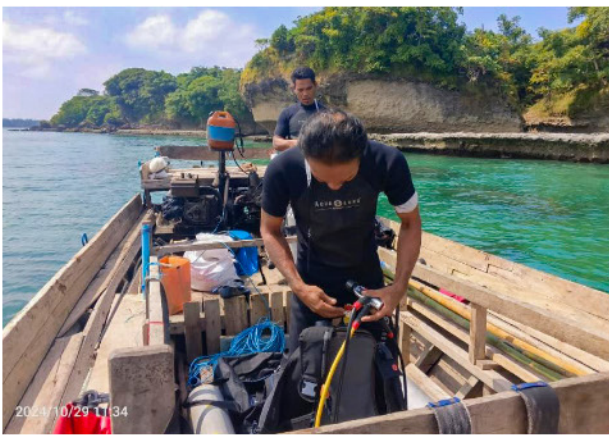
- Continuous monitoring of eight artificial reefs, coral nurseries, and seagrass beds to assess progress.
- Successful removal of unwanted rock clams and repairs to underwater infrastructure.

Community Engagement and Impact:

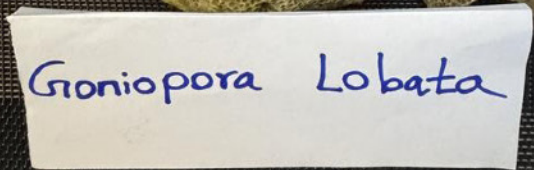
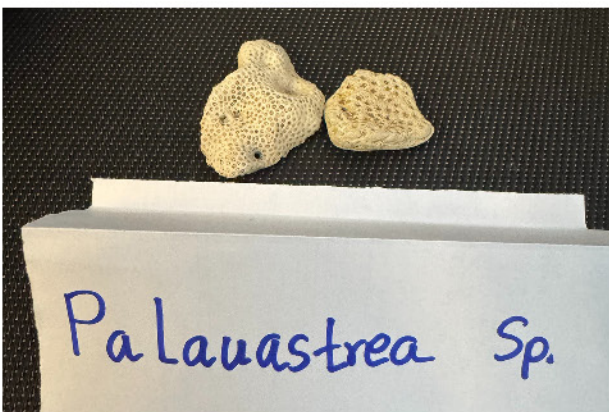
- Involving local volunteer divers not only tracks the project's progress but also builds capacity and awareness in the community, ensuring future stewardship of the reefs.
- Local stakeholders are empowered through participation in the M&E process, creating a sense of ownership and responsibility for the coral reef ecosystem.

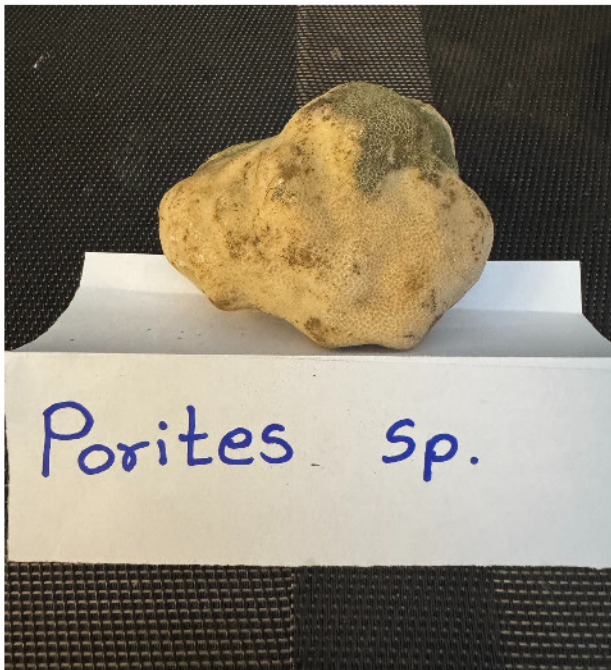
The M&E activities are designed to provide actionable insights and foster adaptive management of the coral reef conservation project. They play a vital role in ensuring that the project remains on track and that the long-term sustainability of Myanmar's marine ecosystems is achieved.





Monitoring Condition of Coral Reef Conservation Pilot Project in Sabahtar Island





Collecting and Classifying Dead Corals around Sabahtar Island



5. Challenges and Solutions

While the coral reef conservation pilot project has made significant strides in restoring Myanmar's marine ecosystems, several challenges have emerged that impact the effectiveness and scalability of the project. To overcome these challenges, the project has identified targeted strategies and initiatives.

Key Challenges Encountered:

- **Policy Alignment:**
 - **Challenge:** Ensuring that policies across different departments and ministries are aligned remains a critical issue. Misalignment can lead to conflicts or regulatory gaps, undermining long-term sustainability efforts.

- **Addressing Complex Issues:**
 - **Challenge:** Marine ecosystem management is multifaceted, encompassing pollution control, habitat protection, fisheries regulation, and community engagement. Coordinating among various agencies with different expertise areas is essential but challenging.

- **Pollution and Water Quality:**
 - **Challenge:** Unclear seawater and sedimentation in the project area have hindered effective conservation efforts, making it difficult to maintain the necessary conditions for coral growth and overall reef health.

- **Capacity Building:**
 - **Challenge:** A shortage of local expertise has limited the effectiveness of training and capacity-building programs, preventing stakeholders from fully participating in and benefiting from the project.

- **Scaling Up Efforts:**
 - **Challenge:** The availability of local staff to manage logistics, administration, and fieldwork is limited, restricting the ability to scale conservation activities and increase impact.



- **Refilling Air Tanks:**

- **Challenge:** The absence of a local refilling facility in the Gaw Yan Gyi area has created logistical challenges for volunteer divers who rely on air tanks for underwater monitoring. Electricity downtime further complicates the issue.

Proposed Solutions and Strategic Initiatives:

- **Resource Allocation and Financial Support:**

- **Solution:** Provide financial incentives to local communities who actively contribute to coral conservation efforts. This will encourage long-term engagement and sustainable practices.

- **Capacity Building and Expertise Development:**

- **Solution:**

- Engage external marine conservation experts to conduct advanced training for local stakeholders.
- Develop comprehensive, hands-on training programs to equip local communities with the skills to manage conservation efforts independently.
- Foster partnerships with universities, NGOs, and international organizations to facilitate knowledge transfer and build expertise.

- **Adaptive Management and Continuous Improvement:**

- **Solution:**

- Implement adaptive management practices to assess the effectiveness of restoration strategies and make real-time, data-driven adjustments.
- Conduct periodic reviews and evaluations to refine the approach and incorporate lessons learned into future project phases.



- **Community Engagement and Stakeholder Participation:**

- **Solution:**

- Strengthen community engagement through regular meetings, workshops, and participatory activities that foster trust and collaboration.
- Provide training for local divers and community members in data collection to ensure continued local involvement.
- Empower stakeholders to assume leadership roles, promoting ownership and responsibility for the conservation efforts.

- **Collaborative Approach to Complex Issues:**

- **Solution:**

- Organize joint workshops and strategy sessions involving government agencies, NGOs, community leaders, and marine conservation experts to collaboratively tackle complex environmental issues.
- Incorporate local communities into co-management practices to enhance involvement and ensure sustainable solutions.

- **Enhanced Water and Sediment Monitoring:**

- **Solution:**

- Prioritize continuous monitoring of water and sediment quality to assess pollution impacts and better inform future site selection.
- Use findings to implement targeted measures that improve water quality, focusing on existing project areas.



- **Survey Design for Coral Health Assessment:**

- **Solution:**

- **Visual Assessment:** Divers will conduct underwater surveys using cameras to document coral cover, species diversity, and signs of damage.
- **Point-Intercept Transect Method:** Establish transects at various depths to record the type of substrate at regular intervals.
- **Quadrat Sampling:** Use quadrats placed at intervals along transects to assess coral species and coverage.

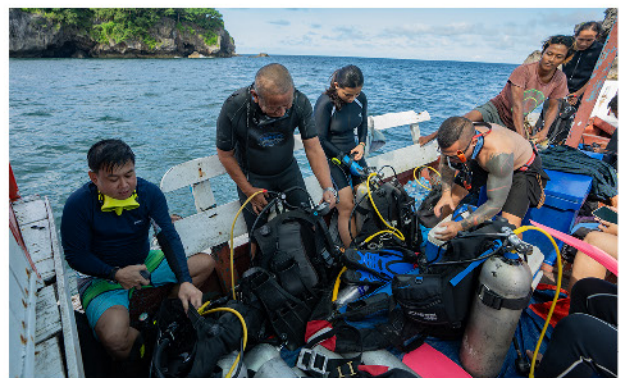
- **Key Indicators to Measure:**

- **Coral Cover Percentage:** Proportion of the reef area covered by live coral.
- **Species Diversity:** Number of coral species, including hard and soft corals.
- **Reef Health Indicators:**
 - Presence of coral diseases or bleaching.
 - Physical damage such as broken branches or scars from anchors.
- **Fish Diversity and Abundance:** Monitor fish populations to assess ecosystem health.
- **Water Quality Parameters:** Measure temperature, salinity, pH, turbidity, and nutrient levels.
- **Sediment Accumulation:** Track the amount of sediment covering coral to gauge the effects of sedimentation.

- **Refilling Air Tanks with Petrol-powered Compressor:**

- **Solution:** To address the lack of a refilling facility, a shift-based system has been implemented to ensure air tanks are filled during electricity downtimes. A designated individual oversees the refilling process overnight to ensure a continuous supply of air tanks for volunteer divers.

By proactively addressing these challenges and implementing strategic solutions, the coral reef conservation pilot project aims to increase its impact and ensure the long-term health of Myanmar’s fragile marine ecosystems. These measures will not only enhance the effectiveness of conservation efforts but will also empower local communities and stakeholders to take ownership of the project’s success.



Having Challenges of Unclear Seawater in Pilot Project Area, and Logistical and Administrative Management





6. Conclusion

The coral reef conservation pilot project represents a transformative milestone in advancing marine conservation in Myanmar. Through the visionary leadership of the PIP CSR Program, this initiative has established a robust foundation for sustainable coral reef management while inspiring collective action among communities, governments, and conservationists.

From the outset, the project emphasized inclusive community engagement in Gaw Yan Gyi, uncovering critical insights that shaped its strategic design. The participatory approach not only heightened local awareness but also reinforced the belief that protecting Myanmar's marine ecosystems is a shared responsibility. Key moments, such as the Birds of a Feather (BoF) session, catalyzed pivotal achievements—mapping coral reefs, selecting Sabahtar Island as a conservation pilot site, and mobilizing community volunteers.

At the heart of this success was the dedication to capacity building. Local volunteers, empowered through specialized diving training, became the guardians of their marine environment, directly contributing to the project's progress and outcomes. Their commitment underscores the power of local stewardship in fostering resilience and sustainability.

Collaborative efforts with stakeholders, including the Ayeyarwady Region Government, ensured alignment with regional conservation priorities. These partnerships not only enriched the project's scope but also paved the way for complementary initiatives, such as sustainable diving tourism and locally managed marine areas.

A transformative highlight of the project was the deployment of eight artificial reefs, two coral nursery structures, and seagrass recultivation efforts at Sabahtar Island. These ecological interventions provided vital habitats for marine life, showcasing the immense potential of restoration projects to revitalize biodiversity. This milestone offers hope for Myanmar's fragile marine ecosystems and sets a benchmark for scaling similar efforts nationwide.

Community Action Day further amplified environmental awareness by uniting local stakeholders around practical solutions for waste management and conservation. This campaign embodied the spirit of collective action, instilling a sense of shared responsibility for the region's marine treasures.

The project's rigorous monitoring and evaluation framework fostered transparency and adaptive management, ensuring that conservation efforts remain data-driven and community-centered. This participatory model has not only strengthened trust but also laid the groundwork for future initiatives.

Looking ahead, the PIP CSR Program is dedicated to:

- Conducting regular monitoring to ensure the health of conservation structures.
- Expanding partnerships with government agencies, experts, and local communities.
- Increasing stakeholder engagement through awareness campaigns.
- Exploring new conservation opportunities across the Ayeyarwady Region.

In conclusion, this pilot project exemplifies the profound impact of collaboration, innovation, and determination. It has laid the groundwork for a brighter future for Myanmar's marine ecosystems, inspiring hope and action for the sustainable well-being of coastal communities and the biodiversity that supports them. Together, we can continue to protect and restore these invaluable ecosystems, ensuring their legacy for generations to come.




7. Acknowledgments

A large boat is on a river at sunset. The sky is a mix of blue and orange, with scattered clouds. The water is calm, reflecting the light. In the background, there is a line of trees and a smaller boat further away.

MPRL A-6 Limited, through its Pyitharyar Integrated Project (PIP), is proud to announce the successful completion of the coral reef conservation pilot project, undertaken as part of the PIP CSR Program between April and November 2024 in the Gaw Yan Gyi area, Ayeyarwady Region. This significant milestone underscores our unwavering commitment to environmental sustainability and marine conservation, made possible by the collective efforts of numerous dedicated stakeholders.

We extend our deepest gratitude to all those who contributed to this achievement. Foremost, we sincerely thank the Chief Minister and the Government of the Ayeyarwady Region for their invaluable blessings and guidance at all administrative levels—regional, district, township, and town. The cooperation and support of regional ministries and their respective departments were instrumental in the seamless execution of this initiative.

Special recognition is owed to Dr. Cherry Aung, Professor and Head of the Marine Science Department at Myeik University, and her exceptional Marine Science Team. Their technical expertise, dedication, and collaboration were pivotal in achieving the project's objectives and laying the groundwork for sustainable marine conservation in Myanmar.



We also commend the Technical Diving Team and local volunteer divers for their indispensable role in advancing our conservation goals. Their expertise and perseverance were critical to the project's progress and impact.

We are immensely grateful for the valuable contributions, insights, and support of local stakeholders in Gaw Yan Gyi and Ngwe Saung. The active participation of government representatives, community members, and local partners transformed this initiative into a model for marine conservation in the region.

A heartfelt thank you is extended to the Senior Management Members of MPRL A-6 Limited. Their visionary leadership, unwavering encouragement, and strategic guidance were foundational to this project's success. This accomplishment reflects their commitment to fostering sustainable development and environmental responsibility.

The PIP CSR Team deserves special acknowledgment for their meticulous planning, seamless coordination, and unwavering dedication throughout the project. Their efforts exemplify excellence in corporate social responsibility and have set a benchmark for environmental conservation initiatives.

As we celebrate this achievement, we reaffirm our commitment to strengthening and expanding partnerships that promote progress in marine conservation. Together, we can protect Myanmar's invaluable marine resources and build a sustainable and resilient future. Once again, we express our deepest gratitude to all who played a role in this transformative journey toward a thriving marine ecosystem.







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