

STRENGTHENING COASTAL AND MARINE RESOURCE MANAGEMENT IN TIMOR-LESTE



CORAL TRIANGLE CENTER

Inspiring People Saving Oceans



© Marthen Welly / CTC

BACKGROUND

Timor-Leste, with 706 km of coastline and a marine jurisdiction of approximately 75,000 km², covers half of Timor Island and forms a part of the Lesser-Sunda Seascape. Eleven of the thirteen administrative districts in Timor-Leste are located along the coastline. The country's coastal and marine ecosystems include 750 hectares of mangrove forest, 2,200 hectares of seagrass beds, and 2,000 hectares of coral reefs (Boggs et al. 2009). Timor-Leste is part of the Coral Triangle region, considered the world's epicenter of marine biodiversity, and is also a member of the Coral Triangle Initiative on Coral Reefs Fisheries and Food Security (CTI-CFF). The CTI-CFF is a multilateral partnership between the six Coral Triangle countries, Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands, and Timor-Leste (CT6) focusing on food security and sustainable management of marine natural resources.

In a 2012 survey endorsed by CTI-CFF extremely high concentrations of biodiversity were recorded along the northern coast of Timor-Leste, including 734 fish species and 360 species of corals. The survey also found that Timor-Leste's waters are at least 2-3 degrees Celsius cooler than neighboring areas. Cooler waters help to make its marine ecosystems more resilient to climate change impacts, thus making it an ideal refuge for marine species in the Coral Triangle region that are threatened by rising sea temperatures.

Scientific surveys have also indicated that Timor-Leste's marine ecosystems serve as an important migration channel for cetaceans and as habitat for dugongs and sea turtles.

In addition, Timor-Leste has a complete coastal ecosystem consisting of coral reefs, mangroves, and seagrass. The biodiversity of these coastal and marine ecosystems provides income opportunities from marine tourism and fisheries, essential sources of protein and other food for the community, and myriad benefits to the environment such as coastline protection.

One of the key challenges facing Timor-Leste is a national capacity shortage related to coastal and marine biodiversity management (ATSEA 2011). Resources and personnel are presently insufficient to allow for effective management (GEF 2013). As a strategic partner of CTI-CFF, Coral Triangle Center (CTC) supports Timor-Leste to establish marine protected areas (MPA) and strengthen capacity on MPA management.



CAPACITY BUILDING AND TRAINING

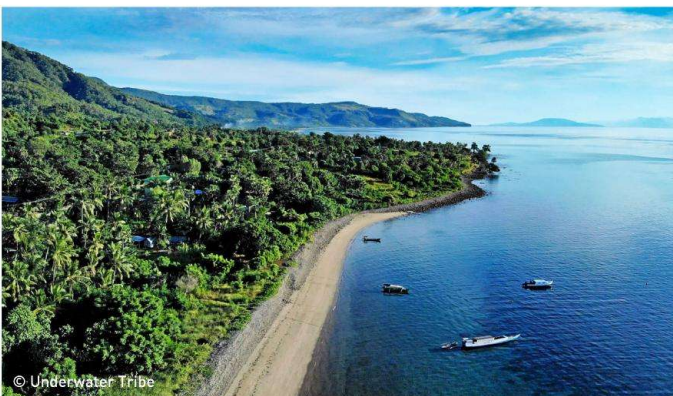


CTC, in collaboration with the Government of Timor-Leste through its Ministry of Agriculture and Fisheries (MAF), is helping to strengthen local capacity to manage the country's marine resources as well as its MPAs. CTC first signed its five year Memorandum of Understanding (MOU) with the MAF in 2013 and subsequently renewed the MOU in 2018 and again in 2023.

Since 2013, CTC has conducted 10 training sessions in Timor-Leste which have been attended by more than 190 participants from various areas in Timor-Leste. These training sessions focused on basic principles of MPA establishment and management, spatial planning, species and habitat management, designing MPAs with different zoning plan scenarios, and marine resource utilization monitoring. Participants come from a range of backgrounds, including officers from the MAF, Ministry of Forestry, and Ministry of Tourism, lecturers from the Universidade Nacional Timor Lorosa'e (UNTL), and members of local NGOs that are actively involved in sustainable development and coastal resources management.

ESTABLISHING MARINE PROTECTED AREAS

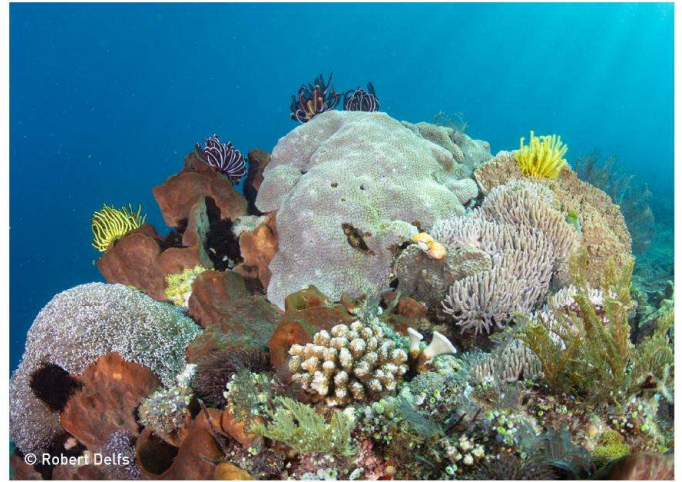
Atauro Island MPA



Located 24 kilometers north of Dili, Ataúro Island is known to have a high diversity of corals and reef fish as well as an important migration channel for cetaceans in the Sawu Sea. Since 2013, in collaboration with the MAF, Dili District Government, Ataúro District Government and local communities, CTC and the Roman Luan Foundation facilitated the establishment of an integrated Ataúro Island MPA. After long processes, the MPA was legally declared by Ministerial Decree in January 2023. The integrated MPA scales up the community-based marine reserves previously set up around the island to the District and National level to provide more comprehensive marine protections that will benefit the local people.

The Ataúro Island MPA covers a total area of 13,242 hectares and includes a Core Zone (No Take) of 318.47 hectares, a Marine Tourism Zone (No Take) of 29.24 hectares, a Temporary Protection Zone *Tara Bandu* of 61.75 hectares, a Sustainable Fisheries Zone of 12,777 hectares, and a Mariculture Zone of 65.6 hectares. Two *Tara Bandu* areas are integrated into the MPA zoning system in the form of Temporary Protected Zones in front of Beloi village.

The establishment of the Ataúro MPA will support small-scale fisheries and marine tourism as well as further supporting the government of Timor-Leste's commitment to protect 30 percent of the country's oceans and its commitment as a CTI-CFF member country.



Samba Sembilan Liquiçá MPA



Liquiçá is a coastal district located 32 kilometers to the west of Dili. Liquiçá's coastal ecosystem is known for its lush mangrove forests and abundant seagrass beds.

Results of CTC's biophysical and socio-economic surveys conducted in October 2017 showed that the average live coral cover at three observation points falls under the medium category (51.3%). However, the survey also found several areas where the corals have been destroyed by destructive fishing practices.

CTC, in partnership and collaboration with the MAF, Liquiçá District Government, and local communities, has facilitated the establishment of the Samba Sembilan Liquiçá MPA since 2017. The MPA was legally declared by ministerial decree in January 2023. The Samba Sembilan Liquiçá MPA adopted an integrated approach to management and covers an area of 8,370.20 hectares with a central zone of 990.05 hectares, a marine tourism zone of 271.86 hectares, an aquaculture zone of 84.14 hectares and a sustainable fishing zone of 7,026.15 hectares.



ESTABLISHING NEW MPAS AND IMPROVING MANAGEMENT EFFECTIVENESS

As a component of the national strategy toward meeting its commitment to protecting 30 percent of national waters by 2030, the government of Timor-Leste will establish new MPAs and improve the management of existing MPAs. CTC supported the collaboration between UNDP Timor-Leste and MAF to design and establish a new MPA in the Municipality of Manufahi and to improve the existing management plan of Nino Konis Santana National Park (NKSNP).

Establishing the Manufahi MPA



In collaboration with the UNDP and MAF, CTC is working to design and establish a new MPA in Betano-Klakuk in the Municipality of Manufahi. The Manufahi Municipality is located on the south coast of Timor-Leste. The area has important coastal and marine ecosystems such as mangroves, seagrass beds and coral reefs. These coastal ecosystems are important habitats for marine life such as demersal fish and pelagic fish, mangrove crabs, clams and shrimp, turtles, dugongs, sharks, cetaceans and other important biota. The waters off the coast of Manufahi are one of the important migration routes for cetaceans and habitat for deep sea red snapper. The diversity of Manufahi's coastal and marine biological resources provides economic benefits for the community from fisheries, and has the potential to develop marine tourism activities. For these reasons, the government of Timor-Leste, specifically, the MAF, the Manufahi Municipality government, together with the community, agreed to establish an MPA in the waters of Manufahi.

The total area proposed for the Manufahi MPA is 41,624.7 hectares, consisting of two zones, namely a core zone (no take) covering an area of 2,944.6 hectares or 7.1% of the total MPA area and a sustainable fisheries zone covering an area of 38,680 hectares or 92.9% of the total MPA area. Since the inception of the project in 2021, CTC has assisted in the marine rapid assessment, preparation of a financial plan, development of a management plan, and stakeholder consultations through a series of workshops. In 2022, the Manufahi MPA was announced by DG Fisheries-MAF, an announcement followed by the submission of MPA Manufahi Management Plan document and a draft of Ministerial Decree to MAF.

Development of Metinaro MPA



To assist in establishing a new MPA in Metinaro, CTC, in coordination with the MAF of Timor-Leste and supported by FAO-ISLME, conducted a series of field surveys and a focus group discussion for key stakeholders in September 2022. The field survey included the distribution of coastal ecosystems in the area, such as coral reefs, mangrove forests and seagrass meadows. In addition, the survey documented critical habitats of charismatic marine animals, including dugongs and sea turtles, and migratory routes for marine cetaceans. The team also identified coastal sedimentation processes and measured the quality of seawater according to salinity, temperature, and acidity. CTC and the Timor-Leste MAF also identified fishing grounds for local fishers, diving and snorkeling spots, community residents, industries and fish landing docks as well as areas governed by tara bandu. Plans for the MPA in Metinaro include a zoning system inclusive of no take, fishing grounds, aquaculture, and marine tourism sites. The area of interest (AoI) for the new MPA candidate of Metinaro is about 6000 hectares.

Improving Management Effectiveness Plan for Nino Konis Santana National Park

CTC collaborated with UNDP Timor-Leste and MAF to improve the existing management plan of Nino Konis Santana National Park (NKSNP) in the Municipality of Lautem. The CTC team, in collaboration with MAF, Lautem Municipality and NKSNP management unit members, conducted field visits and observations, interviews with management unit members, and stakeholder consultations to gather data, as well as information on threats, challenges and recommendations for improvements for the existing management plan of the National Park, particularly for the marine areas. The resulting improvement of the NKSNP management plan document was submitted to MAF on 15th December 2022 in Dili.



© Wira Sanjaya / CTC

EMPOWERING WOMEN LEADERS

CTC has been working to empower women leaders in Timor-Leste through the CTI-CFF Women Leaders Forum (WLF). The forum, supported by USAID and the US Department of the Interior (US DOI) International Technical Assistance Program, is a regional peer-learning network for women who are playing key leadership roles in sustaining the marine resources of the Coral Triangle region. WLF has facilitated opportunities for women leaders from Timor-Leste to participate in various programs such as a learning exchange with women leaders from across Coral Triangle countries and a customized training workshop on the basic principles of MPAs. In addition, two women leaders participated in the Intergenerational Leadership Learning Program, a program that provides a mentor-mentee pair with a small grant to implement solutions to local marine conservation challenges. The women leaders from Timor-Leste are working on plastic waste solutions for women groups in Atauro Island.

In collaboration with the Timor-Leste MAF, CTC facilitated an alternative livelihood training program for women from fishing communities inside the Atauro Island MPA in September 2023. Through this training, participants have the opportunity to create fish-based food products to supplement their families' incomes and to cater to the tourism resulting from the marine environment in the MPA.



© CTC



© CTC

TRADITIONAL MARINE RESOURCE MANAGEMENT

Tara Bandu refers to a set of customary laws that have been a traditional means of resource tenure in Timor-Leste. These are rooted in traditional practices based on sacred beliefs and values or *adat* (ADB, 2014). *Tara bandu* may be applied by communities to regulate or restrict harvest of land or marine resources for specific periods of time (Tilley, et. al, 2019). Fisheries and protected resources management are the responsibility of the MAF in Timor-Leste, however, the Constitution of the Democratic Republic of Timor-Leste recognizes *Tara Bandu* in addition to other traditional natural resource management practices originating in its *adat* system of sacred laws and beliefs. The integration of *Tara Bandu* into the MPA zoning system in Atauro Island MPA and Samba Sembilan MPA in Liquiçá demonstrates how the management systems can mutually reinforce common goals. Thus, *Tara Bandu* is foreseen as an effective bridge for institutional planning and implementation of marine protected area management.



© CTC

PARTNERS AND DONORS

CTC partners include the Ministry of Agriculture and Fisheries (MAF) Timor-Leste, the Roman Luan Foundation (ROLU), Blue Ventures Timor-Leste (BVTL), and Universidade Nacional Timor Lorosa'e (UNTL). In addition, funding in support of these initiatives to strengthen capacity in marine resource management is provided by Waterloo Foundation, Critical Ecosystems Partnership Fund (CEPF), Margaret A. Cargill Philanthropies, UN Development Programme (UNDP), and UN Food and Agriculture Organization (FAO).

For more information, please contact:

Marthen Welly

Marine Conservation Adviser

Coral Triangle Center

Jl. Betngandang II No. 88-89, Sanur, Bali, 80228 Indonesia

Email : mwelly@coraltrianglecenter.org

Website : www.coraltrianglecenter.org

www.savingoceansnow.com