

THE ARTICLE *CAN BAMBOO REPLACE NATURAL CORAL REEFS?* PUBLISHED BY THE INBAR BRU MAGAZINE

September 2026

[The BRU - Bamboo and Rattan Updates Magazine of the INBAR International Network, sharing the latest news and activities from the Bamboo and Rattan sectors, has published the article *Can Bamboo replace natural coral Reefs?*](#)

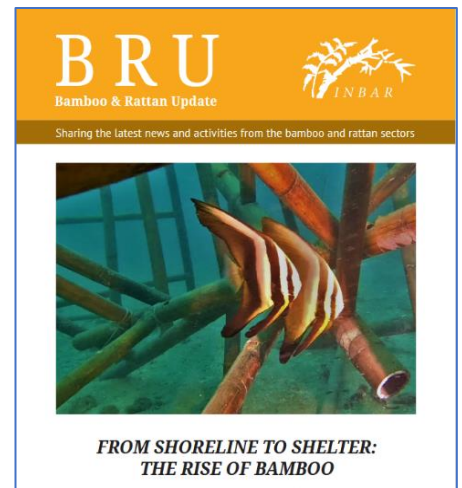
[The article informs the readers that off the coast of Southern Leyte in the Philippines, an NGO is deploying artificial coral reefs made entirely of bamboo.](#) The project is part of a marine restoration effort in the village of Balagawan, spearheaded by Scaph Pro Philippines Oceanographic Research, an NGO based in France.



[The article emphasizes that](#) coral reefs, which are extraordinary underwater ecosystems sometimes called the “rainforests” of the sea, are disappearing around the world. Rising ocean temperatures, acidification, pollution and destructive fishing practices have devastated reef systems worldwide. Artificial reefs have long been used as a conservation tool, but the choice of material matters, and bamboo is well suited to the task at hand. Bamboo is a strong material with mild natural antimicrobial properties, helping to resist early decay in seawater. Its biodegradable nature makes it a strategic choice for reef restoration providing temporary support for coral growth while allowing the ecosystem transition into a fully natural, self-sustaining reef. Its complex morphology, including crevices, hollow tubes and irregular surfaces, mimics the structure of natural coral habitats. This provides vital shelter and breeding grounds for fish, crustaceans and invertebrates.

With a remarkable growth rate, bamboo is a great option for creating artificial reefs and Scaph Pro Philippines’ artificial reef project supports the bamboo economy of the nearby Municipality of Silago, which is home to an abundance of this giant grass. Bamboo is highly diverse, and its morphological characteristics provide crevices, nooks and surfaces that replicate the intricate structure of real coral reefs. This offers various niches and hiding places for a wide range of marine organisms, including fish, crustaceans and other invertebrates. Over time, algae and other small organisms can grow on the bamboo’s surface, further enhancing its resemblance to natural coral and providing a food source for marine animals. As aquatic life colonizes the bamboo artificial reef, it creates a miniature ecosystem that supports biodiversity and can have a positive effect on the health of the surrounding marine environment.

Artificial bamboo reefs create shelter and breeding grounds for different species. This can lead in an increase in fish populations. Man-made reefs can also help alleviate pressures on natural fish stocks by providing additional habitats for marine life. This can reduce pressure on overexploited areas.



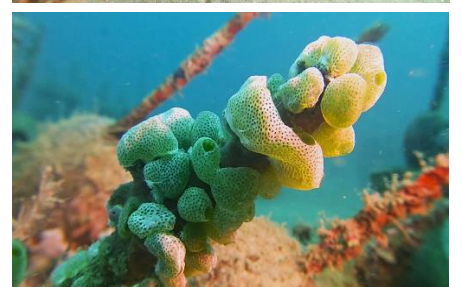
In appearance, the bamboo reefs resemble a small traditional Filipino hut. Around 1.5 meters in height, the five-sided bamboo structures are officially known as pentahedron modules. The construction process includes interlocking bamboo poles, and each set is secured with a nylon cord. The bamboo tubes that will be in contact with the seafloor are filled with concrete to make it possible to sink them underwater. The other versions are called Plerogyra modules, named after the genus of the same name characterized by bubble-like tentacles. Their design is fairly straightforward. Bamboo tubes are vertically split in half. The resulting pieces are further cut horizontally to achieve 10-inch-long pieces. Then they are planted in a rectangular bed of freshly mixed water, cement and sand. This module is intended for corals, offering many ecological niches. Its height and design allow many species of coral to find a point of colonization without being far from the cement part, thereby preserving the coral when the bamboo disappears or deteriorates after three years.

In August 2023, a raft full of heavy bamboo corals was transported to the Balagawan-Mercedes marine sanctuary for the pilot immersion. A total of 10 pentahedron modules were successfully lowered onto the seabed. Not long after the immersion, the results were already promising. Twenty days after the first immersion, life was already appearing. Microalgae, hydroids and of course their mollusk predators. A new life chain had been created. Fifteen days after these appearances, the team also noted the arrival of longfin batfish around the submerged bamboo corals, and referred to these fish as “the first inhabitants marking their territory.”

So far, a total of 125 pentahedron and Plerogyra modules have been successfully immersed by Scaph Pro in the Balagawan-Mercedes marine sanctuary. They are aiming to make and deploy more modules before moving on to the next marine sanctuary (Silago has five marine sanctuaries in total). The project, operating in partnership with the local municipality of Silago, has already immersed 125 modules in the Balagawan- Mercedes marine sanctuary. Within twenty days of the first deployment, microalgae, hydroids and mollusks had already taken hold. Longfin batfish arrived soon after. Though the project is in its early stages, it is already a tangible proof that bamboo can play a significant role in marine restoration, and that sustainable material choices do not stop at the shoreline.

The use of bamboo for artificial coral reefs holds significant promise for addressing the ecological challenges faced by the oceans. By embracing bamboo-based artificial reefs, it is possible to contribute to marine conservation, enhance biodiversity and create sustainable solutions that benefit both marine ecosystems and the communities that rely on them. As efforts continue to explore innovative solutions for reef restoration, bamboo stands as a symbol of nature-inspired resilience in the face of environmental challenges.

[Scaph Pro Marine Research](#) is an international NGO, based in France, specializing in seabed restoration and oceanographic research. Founded in 1999 by oceanographer Jean-François Marailhac, it brings together a multidisciplinary team of scientists, engineers, photographers, and professional divers. The NGO designs and installs innovative structures (more than 20 models, some made of natural materials such as bamboo and coconut) to restore ecosystems degraded by overfishing or pollution. The NGO manages and monitors protected areas, notably in the Philippines, where it has special status for its conservation programs. It works with local communities to develop participatory management of marine resources and produces documentaries to raise public awareness. Scaph Pro also conducts scientific expeditions to inventory marine fauna and flora, update biodiversity databases, and inform conservation policies.



To know more

[Article in BRU Magazine INBAR](#)

[Article in INBAR website](#)

[Article BRU pdf](#)

[ScalphpPro website](#)

[Artificial Reef Programme Philippines in Facebook.com](#)

[Artificial Reef Programme Philippines in Facebook.com](#)

[Artificial Reef Programme Philippines in Facebook.com](#)

[Artificial Reef Programme Philippines in Facebook.com](#)

[Article in forestsource.io](#)

[Article in villageconnect.com.ph](#)

