Celebrating an Unlikely Conservation Hero

Sea cucumbers — which expel their guts to keep predators at bay — provide immense benefits to communities

When under attack, the squishy, sausage-shaped sea cucumber can actually eject part of its intestines, along with a toxic chemical, at a hungry crab or other predator.

Worldwide, there are more than 1,700 species of these echinoderms, the same animal group that includes the more well-known starfish and sea urchins.

In virtually all marine environments around the world, sea cucumbers move their bodies along the seafloor on tiny tube feet, feeding on decaying organic matter.

In fact, the average sea cucumber can swallow nearly 100 pounds of sediment in a year, making them an important part of maintaining a healthy marine ecosystem.

The populations of many species of sea cucumbers have also been drastically overfished because millions of people around the world, especially in Asia, consider them a delicacy. The numbers of these animals in places like Australia, the Galapagos, and Madagascar have crashed.

"I used to look for sea cucumbers. Now there are none left. We've dried up the resource," explains Yvette, a fisher living in Belo-Sur-Mer, a village along the west coast of Madagascar. "So I started growing seaweed. It's easy to grow."

Launched in 2022, the public-private partnership promotes sustainable sea cucumber and seaweed farming with Ocean Farmers and Indian Ocean Trepang, two local aquaculture companies. This five-year, $6.3 million partnership works with local communities in northeast and southwest Madagascar.

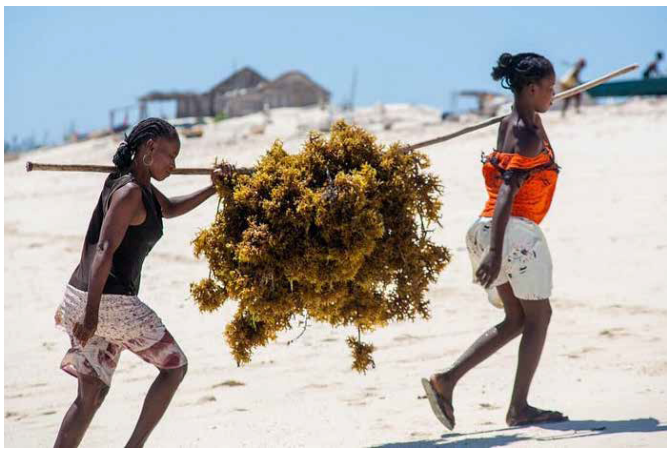
Partnerships like Nosy Manga are being celebrated for the role they to play in conserving biodiversity, from national to local governments, from the private sector to private citizens.

Nosy Manga is one of many partnerships under the Health, Ecosystems and Agriculture for Resilient, Thriving Societies (HEARTH) Global Development Alliance initiative, where USAID and the private sector work together to identify and solve development challenges.

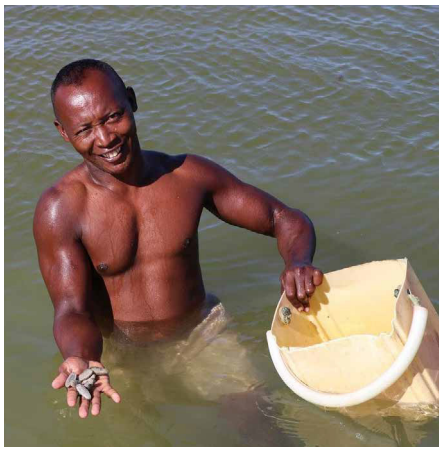
For every dollar USAID invests in HEARTH activities, private sector partners will co-invest the equivalent value in cash or in kind. In addition to Ocean Farmers and Indian Ocean Trepang, other Nosy Manga partners include Wildlife Conservation Society, Blue Ventures, World Wildlife Fund, and Cargill.

Through the 16 current HEARTH programs around the world, USAID and

Sea cucumbers post-harvest staying fresh on a bed of salt. / Zack Taylor, USAID/Madagascar



Women carry a load of seaweed post-harvest to be processed in Atsimo Andrefana. / Ocean Farmers



Sea cucumber farmer collects baby sea cucumbers in Atsimo Andrefana. / Zack Taylor, USAID/Madagascar

private sector partners collaborate with communities to confront development challenges. Similarly, stakeholders across sectors – conservation, food security, health, and governance – cooperatively design synergistic programming that enhances the resilience of people and the planet.

Nosy Manga focuses on conserving marine biodiversity while sustainably managing marine resources to benefit local communities.

"Nosy Manga is a project with great potential to create a model of sea cucumber and seaweed production that will benefit both marine ecosystems and local communities," former USAID Madagascar Mission Director Anne N. Williams said. "This approach reduces poverty while preserving natural resources and improving the health of marine ecosystems as part of a stronger, more resilient aquaculture sector in Madagascar."

The project is only in its second year, but already participating aquaculture farmers are seeing results. Seaweed and sea cucumber farmers are learning sustainable farming techniques, farm management, disease prevention, and other risk coping strategies through training with Ocean Farmers. Almost 200 seaweed farmers, including Yvette, joined the program so far.

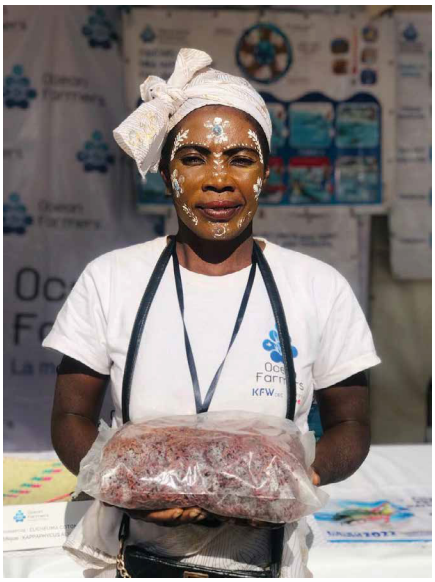
Through Nosy Manga, the company and farmers signed an agreement stipulating that if the farmers use sustainable production methods, Ocean Farmers will buy their entire harvest at a fixed price regardless of global price fluctuations. The seaweed is later processed to extract carrageenan for use as a thickening agent in the food industry. In just the first year of Nosy Manga, participating farmers sold nearly 175,000 pounds of seaweed. The main buyer of seaweed products is the U.S. firm Cargills, one of the largest American food corporations committed to source red seaweed from sustainable environmentally friendly farming.

"Seaweed farming has positively changed my life," says Aurélie, a mother of six and a seaweed farmer from Soariake, Salary Nord in southwest Madagascar. "This activity allows me to educate my children. It is a sustainable source of income for my family."

Nosy Manga's sea cucumber farming will take longer to establish. The first juvenile sea cucumbers will be distributed in the project's third year and market-sized sea cucumbers sustainably and legally harvested for sale, largely in Asia, 15 months after.

Indian Ocean Trepang is the lead partner in this portion of the project, and the company and participating communities identified nearly 800 acres of potential sites for sea cucumber enclosures. The company is testing the various locations to see if juvenile sea cucumbers are able to grow and thrive there.

These seaweed and sea cucumber farming activities will ultimately provide new, sustainable sources of income to complement traditional livelihoods such as fishing – without extracting or damaging natural resources.



Aurélie, seaweed farmer in Soariake, Salary Nord in southwest Madagascar holding packaged seaweed. / Ocean Farmers

And as pressure on all wild fisheries is reduced, these populations will rebound to the point where they can once more be sustainably harvested. This is important for the future of Madagascar, since the fishing sector is a leading source of income for local communities and the island nation.

Nosy Manga is helping farmers adopt strategies that generate high financial returns and simultaneously contribute to the conservation and restoration of Madagascar's coastal and marine ecosystems.

Sustainable aquaculture is priority sector to develop in the Malagasy Blue Economy since it has the great potential to ensure sustainable supply food to vulnerable and malnourished population.

A vibrant blue economy benefits local communities, fish, and even weird squishy sea cucumbers – an unlikely hero for Madagascar's marine ecosystem.

By **Christine Chumbler**