

Sustainably farmed aquarium products from the Western Province, Solomon Is.

Culturing animals for the aquarium market has become an important source of income for some rural villages in the Western Province of the Solomon Islands. In many parts of the world overfishing, increases in human population, changes in land use and destructive fishing methods have reduced the health of reefs that serve as places for capture of marine ornamental species. The Solomon Islands is home to some of the most unspoiled coral reefs in the world. These reefs also provide the subsistence fishing needs for local communities. Sustainable farming and culture of animals for the aquarium market thus provides a way for a modest income for local people in a way that does not harm the reefs that they depend on. This sustainable farming uses the best possible practices to ensure that farmed aquarium products have minimal impact on the surrounding coral reef communities.

Clam Farming



Giant clams are internationally protected by CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) meaning that globally, only hatchery-grown clams or clams from managed fisheries can be sold. In the Solomon Islands, giant clams are cultured by the WorldFish Center, with a hatchery located on Nusa Tupe, near Gizo. Broodstock (parent) clams, primarily *Tridacna derasa* (at this stage), are spawned and then nurtured in the small island hatchery for about 10 days. They are then transferred to land based tanks for about 8 months until they are big enough to be distributed to village 'farmers'. Village farmers grow out the clams in cages to ensure that they are safe from predators. Clams are kept clean and are periodically thinned to provide ideal conditions for healthy growth. After less than a year the clams are ready for export to the international aquarium market.

Coral Farming



Coral farming is being developed as a village-based sustainable industry. Hard and soft corals are cultured from cuttings using sustainable techniques. Initially brightly coloured broodstock corals are selected from the reef and kept on steel trestles. Once these broodstock are established, they provide future cuttings that are grown onto small cement discs. After a few months, the cuttings attach to the cement disc and the base of the coral begins to grow out and start to cover the disc creating an attractive product ready for export. Once the broodstock is grown and established, there is no need for further corals to be removed from the reef. This also means that the right coral stock is easily accessible. At this stage mostly soft and hard corals are cultured, however over time this will expand to include sponges and other reef animals that can be sold as part of the aquarium market.

Shrimp and Lobster Farming



Techniques for the farming of shrimp and lobster are based on the capture and culture of postlarval animals. Postlarval animals are in their final stage before becoming a juvenile and they have spent the last weeks drifting in the open sea. These postlarval animals come back to the reef to find a new home to live in. During this time many of the animals naturally die or are eaten anyway as part of the process of returning to the reef, so it is sustainable to catch some of these animals during this time. The village farmer catches the postlarval shrimp and lobster when they are returning to the reef. These animals are then kept in a grow-out area for a few weeks until they grow to export size. Exporters find that these farmed animals are better for the aquarium industry as they are used to being handled and artificially fed.

The future of sustainably cultured products

The best possible practices are used to ensure that farmed aquarium products produced by farmers in the Western Province of the Solomon Islands are ecologically sustainable. In this way there is minimal impact on coral reef communities, and at the same time providing an income to some of the poorest people in the Pacific.

There are however, extra costs associated with culturing corals and clams rather than just extracting them from a natural reef. So, the future lies with the consumers, those that buy these products. Only if people choose to buy sustainably cultured products will the economic viability of village-based sustainable farming be assured.

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