

ENVIRONMENT



Happy clams are here again

By Richard Chesher

In the shallow sunlit waters of the Friendly Isles, the Friendly Islanders have done something extraordinarily nice for giant clams. If we stand on the glittering white beach of Falevai, in the centre of the Vava'u island group of the Kingdom of Tonga, we can almost hear the sea sigh with relief at this stroke of good fortune.

Here's what they did. In January of 1988 the people of Vava'u went out looking for Tonga's biggest species of giant clam, *Tridacna derasa* (locally called Tokanoa molemole). According to experts, this favoured food item would soon be locally extinct through over-fishing unless people took immediate action: True to the reports, local divers found the reefs of the inner island group picked almost clean. They went further out - to the small reefs and isles to the south of Vava'u - and gathered over 70 of the endangered clams, some of them over a half metre in shell length and perhaps 40 to 50 years old. These big clams are the major egg producers for the species, spewing out more eggs in a single spawning than thousands of smaller clams at first female maturity.

The whole community donated money to pay the fishermen's expenses and award prizes. The communal clams were then gently placed in shallow water off the village of Falevai. The clams were arranged in circles to make them easy to count and to assure good mixing of eggs and sperm when the clams spawned. There are 10 clams in each circle, a big egg producer in the centre and nine smaller clams all around, each two metres from the next. There are seven circles of *Tridacna derasa* and seven of another species, *Tridacna squamosa* (Matahele).

Adult giant clams don't move around by themselves. Since giant clams grow very slowly and very old, the giant clam garden could last for generations as long as nobody bothers them. If the islanders maintain the circles by putting new ones in when the older ones die, the garden will last forever. Each summer, the theory goes, their spawn rises into the sea like a fountain of life and the baby clams swim for a few days and settle down on all the reefs of the inner island group of Vava'u. But what prevents someone from stealing the tasty clams? It was bound to happen, no matter how complete the public awareness campaign was. And, of course, it did happen. In 1989 a man took five clams from the garden. The people of the village quickly discovered the loss and, in the small community it was not long before they discovered who stole them.

The district officer, Vanisi Fakatulolo said: "A group of men got together and went to see the man who took the clams. We told him to come with us and took him down to the reef at low tide. I showed him some baby Tokanoa molemole and Matahele on the reef. We told him these are the result of the giant clam circles in the sanctuary and they were for everyone's benefit. We told him each big clam in the sanctuary will make thousands of baby clams. When he steals a big clam from the sanctuary, he is stealing thousands of baby clams from everyone in the village. Now he understands and will never touch them again."

The clams in the sanctuary belong to everyone: not any one person, not the government, not any company, not any research organisation, the clams belong to the people of Vava'u and the people of Vava'u must protect them or fail in their social obligations.

In Tonga, social obligations are the most important aspect of a person's life. Allowing *Tridacna derasa* to become extinct would be an unforgivable failure on the part of this generation of Tongans to fulfill the social obligations to future generations of Tongans. The major reason people have left the giant clams in the Falevai Community Giant Clam Sanctuary alone for the past three years is because it is a social obligation to do so; a responsibility to maintain a good supply of these sea creatures for the families of all the people of Tonga.

"If a man allows his farm to go to ruin or spoils the soil, he is not meeting his social obligations to his family," explained Fakatulolo. "If anyone takes clams from the community sanctuary, he is spoiling the production of the sea and is not meeting his social obligations to himself, his family or his community." "But will the clam sanctuary really result in young clams settling on the reefs?" questioned a scientist. The scientist believed the baby clams would be swept off by the ocean currents and never seen again. This was a surprisingly opaque view considering giant clams have survived in Tonga for some hundreds of thousands of years before humans arrived. The simple fact that giant clams have maintained their populations on the eastern reefs of Tonga is proof the young somehow manage to stay near the spawning adults. They could not come from somewhere up-current, because the currents flow from east to west and the smooth giant clam *Tridacna derasa* does not occur further east than the eastern reefs of Tonga.

The villagers knew the project was successful even before the survey teams scientifically confirmed it. "The people found many baby giant clams on the reefs near the village and on Nuku and Na Islands," said