

## Ecotourism and giant clam community-based nurseries in Samoa

*The Samoa Fisheries Marine Multispecies Hatchery has been in operation since early 2014.<sup>1</sup> Three and a half years after its inauguration, a quick look at its achievements shows that the marine hatchery officers and technicians, who are staff members of the Fisheries Division of the Ministry of Agriculture and Fisheries, have been working hard; if only looking at the giant clam-related activities, the hatchery, based in Toloa, has implemented seven successful spawnings of the smooth giant clam (*Tridacna derasa*).*



Assessment of giant clam nurseries in Savai'i by community members and aquaculture officers (Samoa) (image: Unity Roebeck).

Thanks to these efforts, the Fisheries Division Aquaculture Section has managed to distribute, between 2016 and 2017, more than 5000 farmed giant clam juveniles of 7–12 cm in length to 49 newly-established nursery and grow-out sites, which are managed by local communities. These community-based nurseries and grow-out sites are distributed along the coastlines of Upolu, Mulifanua and Savai'i.

The latest assessment at these 49 nursery and grow-out sites was carried out in July 2017 and has shown a very promising average of a 65% survival rate in giant clam stocks.

Grown-out giant clams are consumed nowadays by the managing communities or marketed locally. Some specimens are retained as future broodstock after a selection process that takes into account grow rates, survival rates, resistance to parasitic infestation and colouration.

An unexpected positive result for the communities involved in giant clam farming has been the additional revenue generated by ecotourism activities that are linked to the 'farm' operations. One of the communities reported during the Community-based Fisheries Management Program review that was carried out in March 2017 that they had received

more than WST 20,000 ( $\approx$  AUD 10,000) in 2016 from tourists visiting the villages and their giant clam farms as part of island tours.

The community-based clam farm project is already considered a success, but the hatchery staff members do not rest on their laurels and continue to work hard. Unity Roebeck, Senior Marine Aquaculture Officer, in collaboration with Japan International Cooperation Agency (JICA) senior advisers based in Upolu, is currently testing innovative giant clam farming strategies, such as:

- new spawning induction protocols;
- improved feeding and supplementary feeding of giant clam larvae;
- adapted settlement structures for early larvae rearing and larvae settlement;
- innovative nursery cage design and settlement structures; and
- improved site selection that is based on regular assessment of water quality control parameters.

<sup>1</sup> See article in issue #145 of this newsletter at: [http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/FishNews/145/FishNews145\\_29\\_Tiitii.pdf](http://www.spc.int/DigitalLibrary/Doc/FAME/InfoBull/FishNews/145/FishNews145_29_Tiitii.pdf)

Long-term involvement of communities in giant clam farming for restocking or stock enhancement purposes is usually difficult to obtain because, apart from a few animals used for domestic consumption, the possible positive effects of stock enhancement take years to be felt. But, if ecotourism is added to the equation, as was done in Samoa, immediate revenues can be directly distributed to the communities that are involved. Samoa has shown that a combination of successful hatchery, nursery and grow-out operations, associated with a strong involvement of coastal communities and alternative income generating activities linked to the clam farming can be key to success.

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Checking giant clam health and growth in a community-based nursery (image: Unity Roebeck).



Giant clams are placed on trays, which are fixed to the seabed (image: Unity Roebeck).