



## 1. RE-INSTALL OF SEA CUCUMBER CAGES

After the devastating incident of the Hunga Tonga Hunga Ha'apai around Tonga coastal waters, COVID-19 breakout and lockdown soon followed. The Ministry provided technical assistance to the communities, in re-building their sea cucumber cages that were damaged by the tsunami. These communities included Nukuleka, Talafo'ou and Manuka Tongatapu, with two new established cage farms at the Special Management Areas (SMAs) of Makave and Koloa in the outer Island Vava'u. Individual farms were stocked with 1,500 juveniles while Nukuleka was stocked with 1,300. Each farm is a 625m<sup>2</sup> cage, with a smaller 2.96m<sup>2</sup> submerged cage inside. Juveniles are first stocked to the submerged cage, until they reach a certain size, then are released within the larger cage. The juveniles are released with an average body weight of 0.81g, and body length of 2.02 cm for Tongatapu. However, average weight and length differs with juveniles released in Vava'u, with an average of 1.3g body weight and 2.4 cm average body length. The Aquaculture section is then responsible for conducting a weekly monitoring program, with hopes to collaborate more with the community members in conducting this task in the near future. With the constant support and partnership with Vast Ocean (VO), the Aquaculture section together with the SMA communities managed to work together and completed the task successfully.

## 2. PEARL FARM MONITORING PROGRAM

To ensure that high quality pearls are produced, pearl farming techniques and practices are highly recommended. An important part of the Aquaculture section's main activities, are to monitor the spat from spawning and brood stock, repair and maintenance of the Fisheries pearl long line on a monthly basis. Stock taking of the oyster spat and brood stock was conducted in May after

the volcanic eruption and the tsunami, with the numbers below.

Year 1 (Small)	Year 2 (Medium)	≥ Year 3 (Large)
3,537	886	757

\*Large / Medium size (Y2 & Y3) – 951 oysters were distributed to farmers in Vava'u

\*Small (Year 1) are spats from spawning in Dec 2021-Jan 2022

## 3. INSTALL OF NEW CAGE CULTURE SYSTEM (FLOATING CAGE)

The Aquaculture team also constructed a new aquaculture cage culture system, made of floating frame, net materials and mooring system. The purpose of this activity is to develop new farming strategies. Trialing of fish farming in a different cage system, would help with the decision of the Aquaculture section in terms of introducing the system to the community as an alternative livelihood, if the trial is a success. Advantages of culturing fish in cages includes a much lesser labor intensive compared to ponds when harvest and very efficient to monitor and feed.

## 4. COMMUNITY TRAINING ON AQUACULTURE FARMING METHODS

The Head of Fisheries Science Division, Mr. Poasi Fale Ngaluafé with 5 Aquaculture staff, travelled to Vava'u to conduct training and deliver extension services to the communities and pearl farmers. The purpose of their trip was to conduct:

1. Mabé pearl seeding Training, Training of new farmers on farming practices & management and Distribution of spats
2. Introducing of sea cucumber farming (farming methods & monitor) to SMA communities

The trip was a success, with both new and existing pearl farmers receiving great support and help from the Ministry staff. The seeding training





activity was conducted at the Fisheries main office at Neiafu and the communities of Makave, Ofu and 'Otea. Below are the following pearl farmers with their numbers of seeded oysters during training, expected to be harvest by February-April 2023.

Farm Location	Names	Number of oysters	Number of nuclei seeded
Vaipua	Pimi Malungahu	21	3/oyster
'Utulei	Esitimoa Kuilber	88	4/oyster
Makave	Teu Lui	47	3/oyster
	Keio Tu'io'afitu	32	3/oyster
Ofu	Kefu Vailea	86	3/oyster
	Simione Lolohea	130	3/oyster
	Fai'ana Fukofuka	38	3/oyster
'Otea	Tila'oneniti Vea'ila	29	3/oyster

What is exciting about this activity, is the growing number of women that are involved and engaged in Pearl farming. This provides a more promising and brighter future for the Mabé Pearl Industry in Tonga. Overall, there are 20 active pearl farmers in Vava'u with more people interested in this farming activities.

## 5. GIANT CLAM ACTIVITIES

A total of 115 giant clam brood stocks were collected for community activities purposes. These 115 broodstock includes 61 *T. squamosa*, 21 *T. maxima* and 21 *T. derasa*. The Aquaculture section is moving towards a new initiative of distributing giant clams brood stocks to SMA communities for stock enhancement and reproduction. The tsunami disaster mostly affected juveniles at the Fisheries nursery and SMAs areas. The remaining stocks are now closely monitored by the Aquaculture staff on a monthly basis.

### 1. Sea cucumber cage installation







## 1.2 Sea cucumber juveniles released



## 2. Pearl Farm Monitoring



## 3. Install of new cage culture system



## 4. Community Training



Neiafu



Makave



Ofu



'Otea

