



Alternative Livelihoods Programme

Culture and ranching of giant clams and other marine invertebrates

Summary progress report

Elvin Michael Bavoh and Elizabeth Wood 2011

The culture programme is based at the 'Marine Invertebrate Conservation Centre' (MICC) on Boheydulang, within the Tun Sakaran Marine Park. The Semporna Islands Project has provided support for staff at the MICC for several years and has provided essential equipment for the culture programme, including adult broodstock and feed, larval and juvenile rearing tanks and chemicals and other materials for algal culture.



Culture room (above) and laboratory (below) at the Boheydulang hatchery



Holding tanks at the Boheydulang hatchery





Preparing for a spawning event with the giant clam broodstock at Boheydulang.



Eggs from *Tridacna gigas* being collected for the culture programme.

Thousands of juvenile clams (mainly *Tridacna derasa* and a few *Tridacna gigas*) have been successfully produced at the hatchery. They are kept in the rearing tanks until about 5cm in length and then transferred to the shallow reef. Here they are kept in cages to protect them from predators. This part of the operation is known as sea-ranching and is a way in which local communities can 'grow-out' the young stock until the animals are the correct size for the market or for transplanting on the reef.



Juvenile clams being cleaned in the grow-out cages in the Bodgaya lagoon



Juvenile *Tridacna derasa* at the age of one year and with a shell length of about 5cm. The blue-edged mantle is characteristic of this species.

Giant clams can be sold in the local market for food but a much more economically attractive proposition is to sell juvenile giant clams for the aquarium trade. If marketed for food they have to be 'grown-put' for 7 years or more until they reach a marketable size. In contrast, giant clams farmed for the aquarium trade reach optimal size (about 8-10cm) after less than 2 years.



Monitoring adult abalone broodstock

There are currently over 2,000 juvenile clams and these have now just reached the size where they can be taken from the cages and used a) for conservation, to re-stock the reefs in the Park and b) for sale as aquarium specimens. The first export is currently in the planning stage, with profits going towards further developing giant clam and abalone sea-ranching enterprises with the local community.

The project has supported local livelihoods by purchasing abalone broodstock from fishermen in the Park, as well as the seaweed *Gracilaria*, which is needed on a regular basis to feed the broodstock and keep the animals in a healthy condition. Spawning trials are on-going and all necessary preparations have been made for the rearing of the juveniles.