

# Saving giant clams in South-east Asia: Halt poaching, raise funds

Their long-term existence also hinges on improving the survival of offspring: Experts

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Giant clams are reef builders, as well as key sources of food and shelter for reef animals. Some giant clams can live beyond 100 years.

But there are fewer and fewer of them in South-east Asia, which is home to eight out of the world's 12 giant clam species.

Their long-term existence hinges on strongly enforcing anti-poaching laws and improving the survival of offspring. Scientists also need sufficient funding to sustain conservation programmes, said 20 South-east Asian experts of the flamboyant bivalves.

These were the key conclusions of a policy paper published on April 6 to improve the conservation of the threatened reef animals in the region.

While international regulations and local laws prohibit the poaching of the threatened giant clams, overfishing and the illegal trade

persist in the region, with some local communities also claiming them for food and ornaments.

In January, more than 150 giant clam shells, weighing around 10,000kg, were seized at the El Nido coastal municipality in the Philippines' Palawan archipelago.

"Marine protected areas in South-east Asia can be quite big. To police and enforce the entire area can be difficult. (Rangers) could be busy at one spot, exposing the other side to poachers," said giant clam expert Neo Mei Lin from NUS' Tropical Marine Science Institute, who led the report, published in the scientific journal *Aquatic Conservation: Marine And Freshwater Ecosystems*.

The two remaining giant clam species found in Singapore – the critically endangered fluted giant clam and endangered boring giant clam – are threatened not by poaching but by the degradation of habitats and sediments on reefs due to years of coastal development.

Found mainly in the reefs of the Southern Islands, the vibrant clams are few and far between. Based on surveys over the years, there were around 100 fluted giant clams and fewer than 30 boring giant clams as at 2024. They are also widely spread across the reefs, limiting reproduction.

"The numbers are so low that they're not able to reproduce with each other," noted Dr Neo.

To prevent these "jades of the sea" from vanishing, scientists in the region like Dr Neo have taken to breeding and culturing giant clams in the lab, before restocking them in reefs.

However, most restocking projects in South-east Asia have shown mixed results, stated the paper, citing challenges like low juvenile survival rates, high mortalities of restocked clams, poaching and high costs of production.

Between 2011 and 2018, Singapore bred giant clams for repopulating. But in one experiment, which involved putting 144 clams into the sea, only 29.9 per cent of them survived after 145 days.

The aim is to ensure that the restocked clams can spawn and have their new larvae settle on the reefs



The boring giant clam (above) – so named because of its ability to burrow into corals and other surfaces – and the fluted giant clam are the two remaining giant clam species found in Singapore. PHOTO: LOH KOK SHENG

and grow, forming the next generation.

"Having visited colleagues around South-east Asia, we realised that we have a good amount of technical expertise in growing them," said Dr Neo. "However, we still lack scientifically informed programmes for restocking. Nobody knows how many giant clams we need to put out for the population to become self-sustaining... Many of us are not seeing an increase in the population."

Although the Philippines' restocking programme started 40 years ago, it is only recently that the reared clams are starting to successfully spawn a new generation, she noted.

The longevity of conservation programmes also rests on the amount of funding they can secure. "(It is) unfortunately not attrac-

tive to funders to purely invest in a programme that is just focused on culturing giant clams to put them back into the reefs," said Dr Neo.

Most conservationists are reliant on funding from the governments.

Mr Alvin Chelliah, an author of the report and marine scientist at Reef Check Malaysia, said: "Many projects fail because of short-term funding. Malaysia could prioritise long-term financing models, perhaps linking marine farming and ecotourism revenues to conservation funds."

On April 20, the University of the Philippines' Bolinao Marine Laboratory restarted its adopt-a-clam programme to finance the rearing of clams at its ocean nursery.

Dr Neo hopes to have a similar conservation funding programme in Singapore, and has plans to revamp giant clam conservation pro-

jects here and in the region, following the policy paper.

She is bringing in the global authority on threatened wildlife, the International Union for Conservation of Nature (IUCN), to conduct a species conservation planning exercise focused on South-east Asia. As part of this exercise, a population viability analysis – which evaluates the threats faced by giant clam populations, their risks of extinction and their chances for recovery – will be carried out.

Dr Neo is looking to start with the critically endangered true giant clam (*Tridacna gigas*). While it is the largest species that can grow over 1m in length and weigh over 200kg, it is also the most threatened of all giant clam species.

It has been declared extinct in Singapore. Elsewhere in the region, one needs to survey a vast habitat 20 to 30 times to spot a true giant clam, she said.

She hopes to start work with the IUCN in the next couple of years.

The report highlighted the potential of involving local communities in enforcement against poaching. When there are indigenous traditions to preserve or tangible benefits to be reaped, such as ecotourism dollars, coastal communities in South-east Asia have shown they are willing to take charge of protecting giant clams.

Around 2019, the villagers of Air Batang on Tioman Island decided to take action against the islanders of neighbouring villages who were poaching giant clams in their waters for food.

Mr Chelliah said the locals rebranded their hometown as a giant clam tourist attraction, and began engaging with the poachers directly, and also started reporting incidents to local park authorities.

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