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STATUS OF THE MMDC GIANT CLAM HATCHERY - REPUBLIC OF PALAU
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Giant tridacnid clams were historically an important seafood in the Pacific islands, but in many areas natural stocks have been reduced to biological or economic extinction by subsistence and commercial harvesting. During the past five years the Pacific Fisheries Development Foundation (NMFS/NOAA), the US Department of the Interior, the UNFAO and other international agencies have funded a giant clam research and development program based at the MMDC laboratory in the Republic of Palau.

The MMDC has pioneered the development of a low-cost, low-technology system for giant clam spawning, larval culture, juvenile culture and growout in shallow coral reef waters. Clam growth rates under cultivation have been shown to be relatively rapid, even in the absence of food or fertilizer inputs. Techniques have been developed for control of pests, predators and algal fouling. A direct-drive diesel seawater pumping system has been perfected, eliminating dependence on municipal power grids.

MMDC personnel have cultured all of the seven tridacnid species, producing over one million seed clams and some 70,000 pounds of biomass. This production record far surpasses that of any other giant clam hatchery. Of the seven species tested in Palau, *Tridacna derasa* has been found to combine the best biological attributes for farming. Several *Tridacna derasa* cohorts have been raised to full sexual maturity at age five years, and production of second-generation cohorts is now practiced routinely, giving independence from wild stocks and making selective breeding possible. Techniques have been developed for air-freighting seed clams abroad, and so far more than 40 international shipments have been made. In 1987, revenues from sales of seed clams at the MMDC were used to expand the hatchery, doubling its size and production capacity.

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Low-technology methods for giant clam hatchery culture and growout are now being transferred, with demonstrable success, to a number of other countries in the region. Some 12 nations or nation-states in the tropical Pacific have undertaken personnel training and stock enhancement programs using seed clams produced and marketed by the MMDC. Ocean-based cultivation of giant clams is proving to be technically and socially feasible in some very remote Pacific island settings, where other kinds of marine and terrestrial farming are clearly impractical. For example, Yap State (FSM) has implemented a village clam production program, enabling more than 40 municipalities to initiate subtidal giant clam gardens using seed from Palau.

The MMDC is presently implementing an on-site quarantine facility for treatment of shipments of seed clams destined for export to South Pacific island countries. This is in response to SPC recommendations and to popular demand. The quarantine procedure will follow that established at James Cook University in Australia, and will include holding specimens in one-micron filtered, ultraviolet-sterilized seawater for a minimum of one month before export. Establishment of the MMDC clam quarantine facility is being funded by the UNFAO Aquaculture Development Project based in Suva.
