



Setting the record straight

by Neil A. Sims

Pearl culture as a conservation tool

Bobby Kelso's article summarizing the TRAFFIC report on trade in marine invertebrates in the South Pacific (*Naga*, January 1996; see facing page) does a disservice to the pearl culture industry. Certainly, a case can be made for improving management of wild stocks, given the history of overfishing for pearl shell, and the past practices of collection of wild oysters for pearl farming. But Kelso and Glenn Sant (the TRAFFIC report's author) might have made a more constructive argument by highlighting the increasing reliance in the industry on hatchery or spat-collected oysters, and the other economic and environmental benefits that can be brought by pearl farming. Rather than exhorting political and bureaucratic authorities to pursue more research into wild stock dynamics, and a more preservationist stance to these resources, a more objective analysis might have encouraged the managers of these resources to incorporate pearl-culture development into their management plans for these species, and for the reef ecosystems as a whole.

A clear distinction needs to be drawn between the past practices of collection of wild oysters for pearl shell or for farm stock, and current trends. Nowadays, collection of wild oysters for sale as pearl shell is widely viewed as a waste of valuable broodstock or farm resources.

Collection of wild oysters for farm stocks is sometimes an economic necessity, providing cash flow until the hatchery comes on line. Continued dependence on a supply of wild oysters for farm stocks, however, is considered by most to be as sustainable and stable as slash-and-burn agriculture. As pearl farmers crave stability, so they are inherently compelled to accept only that which is sustainable in the long term.

In French Polynesia, for example, pearl farms are stocked entirely from spat-collected oysters. Wild oyster collection is banned outright, but more

tellingly, any pearl farmer worth his salt knows that oysters reared from spat collectors produce better pearls, and produce more of them (the nucleus retention rate is greater than in wild oysters). The wild oyster populations have since rebounded from the scarcities of the old pearl shell fishery days to a level of profusion unknown in this century. Similarly, in Manihiki Atoll, in the Cook Islands, wild stocks have increased dramatically with the shift from collection of oysters for shell to farming of spat-collected animals.

The growing use of hatchery-produced stocks in *Pinctada maxima* pearl farms in Australia and South East Asia is also reducing pressures on wild stocks. This allows expansion of the cultured pearl industry to areas where stocks have been depleted in the past, and permits new, start-up farmers in established pearl-growing areas such as Australia, where growth was long stifled by a rigid wild-stock quota system.

The pearl farms themselves then become agents of repopulation. Where once the oysters were isolated on the reefs, perhaps hundreds of metres from their nearest neighbour, a farm holds large numbers of mature, well-tended oysters in close proximity. This increases reproductive efficiency by better synchronisation of spawning epidemics, and maximising the fertilization rates of eggs, resulting ultimately in more recruitment.

Kelso and Sant might also have given more credit to the diverse spin-off benefits of pearl farm developments in the South Pacific and South East Asia. The returns offered by this lucrative industry—and the development of support industries—can reduce the economic imperative that drives artisanal fishermen to overexploit their marine resources. Pearl farming—and other culture of marine bivalves—turns the past hunter-gatherers into farmers, with a keen interest and economic reliance on the health of their lagoons. In Manihiki, it is the pearl farmers themselves who are the strongest advocates for increased research targeted towards better environmental management.

Pearl farmers and other aquaculturists also have strong incentives to establish tenure over their farm area—either by re-asserting traditional rights or by establishing new claims. In some areas of the Philippines where fish poisoning and dynamite fishing are rampant, pearl-farm lease areas usually harbour the few remnants of unspoilt reef.

Conservation organisations that are working in the Pacific Islands and South East Asia might consider these widely-accruing benefits from pearl culture when establishing marine resource management goals or setting up protected areas. The motivations for establishing, maintaining and policing a fishing reserve can be difficult for traditional communities to fully accept, where rewards are often based on common access to delayed or dispersed returns.

TRAFFIC, and similar well-meaning organisations, might do well to consider this approach. As a first step, some detailed study of the wider ecological benefits of pearl farms, and further documentation of their diverse socio-economic impacts, might be appropriate. While some folk might need to see solid data before they become bold enough to build a pearl farm in the middle of their marine reserve, it is difficult to see any real detriment from native, over-exploited filter feeders suspended from sub-surface long-lines. And it does make a marine reserve an eminently 'saleable' notion.

Dispelling the pearl market myths

I am always surprised by the dismissive tone expressed towards pearl farming by a disconcerting proportion of the senior consultants, fisheries managers and development advisers that I run across. Whilst these attitudes have little impact on the established pearl-culture industry, they represent a constant countercurrent of opinion against which we—those of us working to expand pearls beyond their present geographical boundaries—must swim.

The most basic misunderstanding is the unfounded belief—and unfathomable concept—that pearls are an inappropriate product for rural and island communities. An august national body of agricultural researchers once dismissed the whole notion of pearl farming because 'they are a luxury commodity'. Development aid folk often highlight the disruption of socio-cultural traditions on atoll islands, and ignore or downplay the myriad attendant benefits. Certainly, pearl culture produces rapid—almost revolutionary—shifts in island communities, and there are inevitably tensions: lagoon tenure disputes, conflicts over political jurisdictions, the triumph of capitalism over traditional communalism, and the eager embracing of some of the tackier excesses of consumerism.

But there are wide and varied benefits of new-found affluence from pearl culture. The more measurable improvements include reversal of rural-urban drift, reassertion of faded lagoon tenure rights, and improved communications, transport links and public services to isolated communities that were essentially dead in the water. There are also the equally important intangible benefits: the gleam in the eye and the squaring of the shoulders of those who produce the pearls, who build the farms, who further the industry. There is economic independence, there is pride of ownership, and there is recognition of environmental stewardship. Is this not what development is about?

The other, more galling attitudes concern the pearl market. These might be either the innocent repeating of often-recited myths, or a more insidious attempt to take the wind out of the sails—or downright dismast—any potential competition from new pearling areas. Some of the established pearl producers continue to predict gloom and doom for any new ventures—the perils of overproduction are spun like a prayer wheel—despite the fact that they themselves have continued a virtually unrestrained expansion.

Production in French Polynesia has almost doubled every year since the mid-1980s, and the black-pearl price has fluctuated to the beat of its own drum (or more precisely, to the beat of the promotional drum). Any perceived ceiling of market saturation was quickly recognised as a mirage that one could walk through hand in hand with a couple of women bedecked in black pearls. It certainly helped that the 'couple of women' were Liz Taylor and Miss Tahiti. Black pearls now play well in Peoria, Illinois, as well as Paris, France.

Yet the myths continue, recited by higher-level fisheries and development personnel from all areas. The highest-ranking aquaculture expert from one of the world's largest development agencies believes black pearls are already sunk by the dual salvo of Chinese freshwater pearls and Brazilian hematite. This is as plausible as saying that the sashimi tuna market is under pressure from the massive expansion of tilapia culture and the technological breakthroughs in surimi manufacture.

There doesn't seem to be much that can be done in the face of such ill-informed attitudes. Perhaps a serious marketing study might help, but then it would probably be conducted by the perpetrators of the present problem. It might be hard for them to leave their preconceptions at home. One might hope that some demonstrated successes might turn some heads, but if the Tuamotus and the Cook Islands aren't example enough of what pearls and pearling can do for Pacific Islands, it is hard to imagine what further proof is needed.

