

89/61: Studies on the development of hatchery and nursery culture of the silver-lipped pearl oyster (*P. maxima*).

Period: July 1989 - June 1990

Supervisor: Dr. J. Penn, Western Australian Department of Fisheries.

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Support: 1989-90 : A\$ 107,500

Objectives: To perfect hatchery culture techniques for the silver-lipped pearl oyster to provide an alternative source of pearl oysters for the pearl culture industry.
The project will attempt to:

- refine the techniques developed in 1988-89 for the field selection and maintenance of broodstock for hatchery spawning;
- further develop and improve the culture methodologies for optimising growth and survival and settlement of pearl oyster larvae; and
- further improve the newly developed handling protocols for nursery stage pearl oyster spat.

Background: The pearl culture industry is currently valued at A\$ 55 million per annum. Hatchery-produced oysters are required for future economic expansion and to alleviate variable recruitment effects on the wild stock fishery. A FIRTA-funded hatchery at Broome (FIRTA 87/82) has produced spat in pilot-scale quantities.

Funds are provided to complete this work

Western Australia test-fishing programme

Test fishing of a new pearling ground off the north Kimberly coast was permitted under a 1989 agreement between the Australian federal government and the Western Australian government. Western Australia's Minister for Fisheries, Mr Hill, and the Federal Minister for Primary Industries, Mr Kerin, signed the agreement in early June, 1989, allowing a fleet of boats to 'test-fish' the area until February 1990.

Mr Hill was quoted in a newspaper article as saying 'The tests will show the location, density and size of

pearl oysters in the area. If the results are positive, the new pearling zone will allow an expansion of the pearling industry in this State' ('Federal State pact opens up potential pearling ground', by Martin Thomas. The Weekend Australian, 3 June 1989). The data collected by the pearling boats was to be used to assess the sustainability of the resource. 'Each of the 14 parties participating in the tests will be restricted to 7,500 pearl oysters and any mother-of-pearl shells taken must be greater than 200 mm in size', he said.

Pearl fishing in the Tuamotus: social aspects

by Nancy Pollock
Victoria University, Wellington, New Zealand

Pearl fishing brought a new supply of cash and altered the pattern of labour in Takapoto in the northern Tuamotus in French Polynesia in the mid 1970s. This change brought about a number of wider social changes which I am interested in following up.

The original research was conducted as part of a UNESCO Man and the Biosphere (MAB) study of Takapoto atoll to assess the impact of human needs on the atoll biosphere. The existence of a research station run by the Service de la Pêche and CNEXO to look into ways of propagating spat for the *Pinctada* pearl fishing provided a base from which I conducted a study of dietary needs and health concerns, under the programme headed by Dr. Bernard Salvat. Pearl fishing was one reason that Takapoto atoll was chosen as a base for the MAB study.

Pearls were fished in two ways. The traditional practice of collecting shells from the lagoon bottom and seeding them was used by the members of the cooperative formed under the auspices of the Service de la Pêche. But five fishermen had decided to break away and were following a programme under the guidance of Mikimoto advisers from Japan, growing their own spat, and farming pearls close to the lagoon shore. I was particularly interested in the differential impact of the two modes of organization both on the fishery, and on the social organization and income of the members community. The fishing season was limited to two weeks a year, at which time a number of persons who did not have residence rights on Takapoto came in to sell their services on a commercial basis to those families who did not have enough persons to dive for themselves.

Some of the questions that emerged from that acquaintance with the pearl fishing programme are:

1. Organization of work. Women were the main divers, and particularly those who were of large body size. This has interesting implications for my current study of obesity in Polynesian populations.
2. Economic returns. How have these been handled? To what degree have they been reinvested in the atoll or elsewhere? To what extent have they contributed to a group of nouveau riche?
3. Ecological impact. To what extent is the community concerned about conserving this pearl fishing resource? What are their benefits and practices of conservation?
4. Technological impact. Has the interest in improving families technological skills become more widespread? To what extent are Mikimoto, or other outside agencies maintaining an interest in assisting the people with developing the pearl fishery? What is the return to Japan? Is aid money being given?
5. To what extent is the air link essential to pearl fishing, to bring in fisher persons and to bring in expertise, and to ship out pearls?

6. Marketing. What percentage returns to the fisher people? What are the grading mechanisms for pearls? What is the potential for marketing the rest of the shell, and for the "blister" pearls?

7. Competition. To what extent is competition increasing in the industry, with adequate controls? To what extent is expertise interchanged between the Tuamotus and the northern Cook Islands? How has the Manihiki fishery affected social relationships with Tahiti and the Tuamotus?

The social impact of this new resource needs urgent evaluation in order to further our understanding of the impact of the fishery at both the village level and the national level of those island nations that have commenced to exploit this resource. The concern must be for both the ways in which the fishery brings new dimensions to the lifestyle of those involved in the fishery, including the extended family and village; and it must also address the issue of maintenance of the fishery over long term periods, such as 20 years and 50 years. A third concern is the amount of outside aid and technological advice that will be needed to maintain the fishery as a viable economic venture.

Sociological study of pearl culture developments on Manihiki

Mr. Ray Newham, of Manihiki, Cook Islands, divides his time between pearl farming and sociological studies. Ray has recently completed his M.A. thesis in Sociology through the University of Canterbury, New Zealand. His thesis is titled "Pearls and Politics" - the impact of the development of the cultured pearl industry on Manihiki."

The thesis will be published in the near future, and

interested workers can write to Ray for inclusion on a reprint list. We hope to include a synopsis in the next Pearl Oyster Information Bulletin.

Ray continues to work on his family pearl farm in Manihiki lagoon. His address is: Tauhunu Village, Manihiki, Cook Islands.

Welcome to new members

Jean-Paul Gaudechoux
SPC, New Caledonia

The Pearl Oyster Special Interest Group is growing. We had received additional completed questionnaires from the individuals listed below. The previous list of members is available in the first SPC Pearl Oyster Information Bulletin.

If you are on the list and your name and address is wrong, please send us a correction. If you are not on the list and want to be, fill in the form enclosed with the bulletin or write to us for a new one.

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