

Pearl culture training courses offered in the Philippines

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In an effort to develop the pearl resources of the Philippines, pearl production training programmes have been initiated by the Bureau of Fisheries and Aquatic Resources this year. Pearl is the eighth highest dollar earner of the Philippines. As of 1991 the industry is worth US\$36,000,000, from the export of raw and polished pearl oyster shells, shell buttons and pearls. The training is a basic course designed to develop technical know-how in pearl oyster/freshwater mussel farming and pearl production. It runs for a week and covers both theoretical and practical aspects of farm set-up, basic surgical techniques for pearl production, oyster/mussel anatomy and biology, farm operation and maintenance and spat collection. A field trip to a pearl farm is the culminating activity. The training is intended to provide the participants with skills which they can immediately apply in their work.

Two courses have been conducted this year, one in marine pearls and the other in freshwater pearls. The first course was held in Zamboanga City under the auspices of the Land Bank and the Agricultural Training Institute. The second course, which centred on freshwater pearl production, was held at the Regional Fisherman's Training Center in Tabacco, Albay. Both courses were attended by around 20 participants from the banking sector, private investors and extension workers from the government.

Anyone interested in these courses should contact: Daisy F. Ladra or Virginia Luyun, Bureau of Fisheries and Aquatic Resources, 860 Arcadia Bldg, Quezon Ave, Quezon City Philippines.

Pearl culture project in India

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Introduction

The natural pearl fishery in the Gulf of Mannar (opposite the north Sri Lankan coast along the Indian mainland) dates back to the 16th century, however, between 1663 and 1961 only 38 natural pearl fisheries were established there.

Indian pearl oyster resources

Pearl oysters are found in India in the Gulf of Mannar along the Tamilnadu State coast and Gujarat State coast in the Gulf of Kutch. Of the above, only the Gulf of Mannar has abundant oyster resources. Pearl oyster species include *Pinctada fucata* (= *P. martensii*/*P. radiata*). Other species such as *P. margaritifera*, *P. bugillata*, *P. anomoides*, *P. chemnitzii* and *P. atropurorea* are also found.

Indian cultured pearls

Research on cultured pearls started in India in the 1970s, with the first cultured pearl produced in 1973. This continued on a research scale till 1983. One commercial venture was started, but suspended its activities in 1987 due to the paucity of oysters. Once the hatchery production of pearl oyster spats was perfected, the pearl culture project of the Tamilnadu Fisheries Development Corporation was started in 1991. This project is the first of its kind and the only farm producing cultured pearls on a

commercial scale in the whole of India. The Government of India has given funds as aid for a functional hatchery.

Pearl oyster collection

For this project we collect oysters from the natural pearl oyster beds off Tuticorin. There are about 85 natural charted pearl oyster beds, lying about 10–15 km away from shore with depths ranging between 10 and 25 m. We have a team of seven SCUBA divers (whose equipment is all imported). Oyster collection is done on nearly all favourable days. The favourable north-east monsoon period starts in September and continues till the following May.

Farming

Pearl oysters collected at Tuticorin are transported to our farm site near the shores of Krusadai island. We have devised a technology for shallow-water sea farming and the oysters in cages are farmed at a depth of 3 to 5m. The cages are suspended from permanent wooden platforms erected in the sea by diving wooden poles.

Implantation seeding operation

Oysters of about 50mm and above are selected and subject to seeding operation. The oysters are



The pearl farm near Krusadai Island



Indian women perform pearl seeding operations.



A pearl in an Indian pearl oyster, *P. fucata*

narcotised with powdered menthol. Shell bead nuclei of 2 to 7mm are used in seeding. Multiple implantation is also done by our team of 18 technicians. At harvest time, in addition to their regular salary, the technicians are paid bonuses based on their performance.

Post-operation culture

The seeded oysters are normally cultured for pearl formation here for 18 months. For the very small nuclei introduced we allow only 12 months for pearl formation. In our waters, the temperature does not usually go below 26°C and will go up to a maximum of about 31°C. The salinity ranges between 30ppt. and 38ppt. Our farm is located in a sheltered area, with a mild water current; the growth rate of oysters is good. Periodical cleaning eliminates the bio-foulers, predators and other enemies of oysters.

Harvest

Harvesting is done manually and pearls are extracted. The pearl production at present averages 40 per cent. However, the production efficiency of certain skilled technicians is up to 75 per cent.

Processing

After grading and sieving, the pearls to be drilled (using imported Japanese machines) are segregated. We then carry out the pearl cleaning process as per requirements, treating the pearls in mild cleaning/bleaching solutions.

Marketing

So far we market for retail only. In fact we are experiencing difficulty in marketing locally, and if the project is to be viable, a regular marketing channel will have to be identified.

At present we are importing shell bead nuclei from Japan, but recently we have produced and are trying bead made out of sacred Indian conch, *Xancus pyrium* var. *acuta*.

[Editor's note : Daniel also informs us that his project has about 30,000 carats of cultured pearls from the first harvest up for sale. These range in size from 3 mm to 7 mm. Interested parties may contact the Tamilnadu Fisheries Development Corporation Ltd, at phone no.s 8277012, 8277114 or 8277305, or by telex at 7178 Fish In.]