



Factsheet 3 Aquaculture Factsheet 3.2 Oyster Farming in Deep Bay

Introduction

Oyster farming was once a major local industry with production being practiced in Deep Bay (on both sides of the border), and it has been estimated that oysters have been cultivated for more than 700 years in Hong Kong¹.

On the Hong Kong side of Deep Bay, oyster cultivation activities were concentrated in Lau Fau Shan, located on the southeastern shore of Deep Bay. Lau Fau Shan was best known as an oyster village in the past. It is believed that around 200 households in Lau Fau Shan were oyster farmers. In addition to cultivating oysters, Lau Fau Shan developed into a main distribution centre for marketing oyster products (e.g. fresh and dried oyster, oyster sauce, oyster shells and even medicine) as well as other seafood such as 'gei wai' shrimp, fresh and salted fish. Other oyster cultivation beds, which have now ceased production, were located in Pak Nai, Mong Tseng Wai and Shakiu.

Why Lau Fau Shan?

The shallowness of Deep Bay is the result of a large amount of silt carried down from the rivers in the New Territories and from the Pearl Estuary. Typical estuarine conditions within the Bay (i.e. cold saline water in winter and warm fresh water in summer) made the muddy intertidal flat at and around Lau Fau Shan an ideal place for oyster cultivation. In the late 1950's, the total yields by local oyster farmers in Deep Bay was nearly 1,200 metric tonnes per annum and the total value was HK\$2,400,000 (1950's value). (Note: due to present day pollution in Deep Bay and other factors, oyster production has declined. See Section **Decline in Hong Kong's oyster industry**)



Oyster products

Yamme Leung



Dried oyster meat

Yamme Leung

How to cultivate oysters?

Oysters naturally occur as scattered individuals on the floor of mud channels where they can attach to the occasional solid substrates such as the empty shells of their ancestors. Human has found a way, however, to grow them intensively in large numbers, exploiting the rich nutrients of estuary waters and mud.

On the Lau Fau Shan mudflats, one of the most common method for oyster farmers to culture oysters was to plant 'cultch' of concrete tiles and posts in the soft mud to attract the settlement of oyster larvae. The larvae grew for four to five years to be large enough for the market. The oyster cultured was mainly the Pacific oyster, *Crassostrea sp.*, remarkable for its rapid growth and large size. The vertically placed oyster tiles were laid out in long lines on the seaward side mud and were tended by oyster farmers who reached them over the soft mud at low tide by means of a mud 'scooter'. Harvesting was undertaken from boats at high tide.



Oyster cultch

Yamme Leung

Apart from this traditional method, another cultivation technique, suspend oysters from rafts, has been used in recent years. Today, both methods are commonly practiced in Lau Fau Shan.

Decline in Hong Kong's oyster industry

Since the mid-1960's, oyster production in Lau Fau Shan dramatically declined to a stable level of several tens of metric tonnes per annum in the 1980's. Increasingly serious water pollution in Deep Bay, overstocking, a lack of labour and competitive pressure from other Asian countries such as China, Korea and Japan caused this decline in production.

1. Water pollution

Serious water pollution resulted in heavy metal (e.g. copper, chromium, zinc and lead) accumulation in tissue, bacterial and viral infections of oysters. When such contamination or infections affect oyster individuals, there is then a substantial health risk to human after consumption. Also, the abnormally high concentration of suspended particles such as clay, silt and organic matter in the Deep Bay water adversely affects the growth of oyster. This is because increased level of suspended solid would lead to suffocation of oysters as deposition of suspended solids clogs their breathing systems.

2. Lack of labour and competition pressure from other Asian countries

Although local oyster production has dramatically declined since the 1980's, the market demand has kept rising. Consequently, oysters imported from the Mainland of China and other East Asian countries have strained local oyster production. For instance, nearly 99% of oyster products found in local markets are imported from other countries and over 70% of fresh, chilled or frozen oysters have been imported from China since the 1980's. Local oyster farmers can no longer depend on oyster production for a living due to low priced competition from other countries. In order to survive, most of these farmers have moved to the urban areas to take up other careers.



Present situation in Lau Fau Shan

Today, Lau Fau Shan no longer cultivates oysters as in the past. Very few oyster farmers are left in Lau Fau Shan, and they work on small-scale oyster cultivation. In 2000, the annual production of oysters in Hong Kong declined to about 76 metric tonnes (valued at only \$3,000,000)². Lau Fau Shan is still a collection and distribution centre for the marketing of oyster products as well as other seafood from China to local restaurants and markets especially those in the village itself. Since a variety of seafood is sold in Lau Fau Shan, it has developed into a tourist attraction in Hong Kong.

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1. Pong, D (1986) *The marketing of oysters and gei wai shrimps in Deep Bay*, Department of Geography and Geology, the University of Hong Kong
 2. *Agriculture, Fisheries and Conservation Department websites on Fisheries: Aquaculture Fisheries: Oyster Culture* (Access in May 2002): http://www.afcd.gov.hk/web/index_e.htm