

AQD recommends the hanging raft method

By AP Surtida

The hanging raft method for oyster and mussel farming is considered superior and has many advantages over the popular stake, rack, and broadcast methods.

The advantages: it has high biomass potential and higher financial returns; it is less polluting, therefore more environment-friendly.

These were the findings of AQD researchers between 1975 to 1985, who investigated this culture method.

In 1997, AQD through its Technology Verification Project began pushing the hanging raft method again to convince the farmers and culturists of its advantages. Commercial runs were made in four towns in Panay Island (west central Philippines) in collaboration with local government units and the Bureau of Fisheries and Aquatic Resources of the Department of Agriculture. The technology verification sites are: Ivisan and President Roxas both in Capiz province; Batan and New Washington both in Aklan province.

Below is the AQD method to raise oysters and mussels.

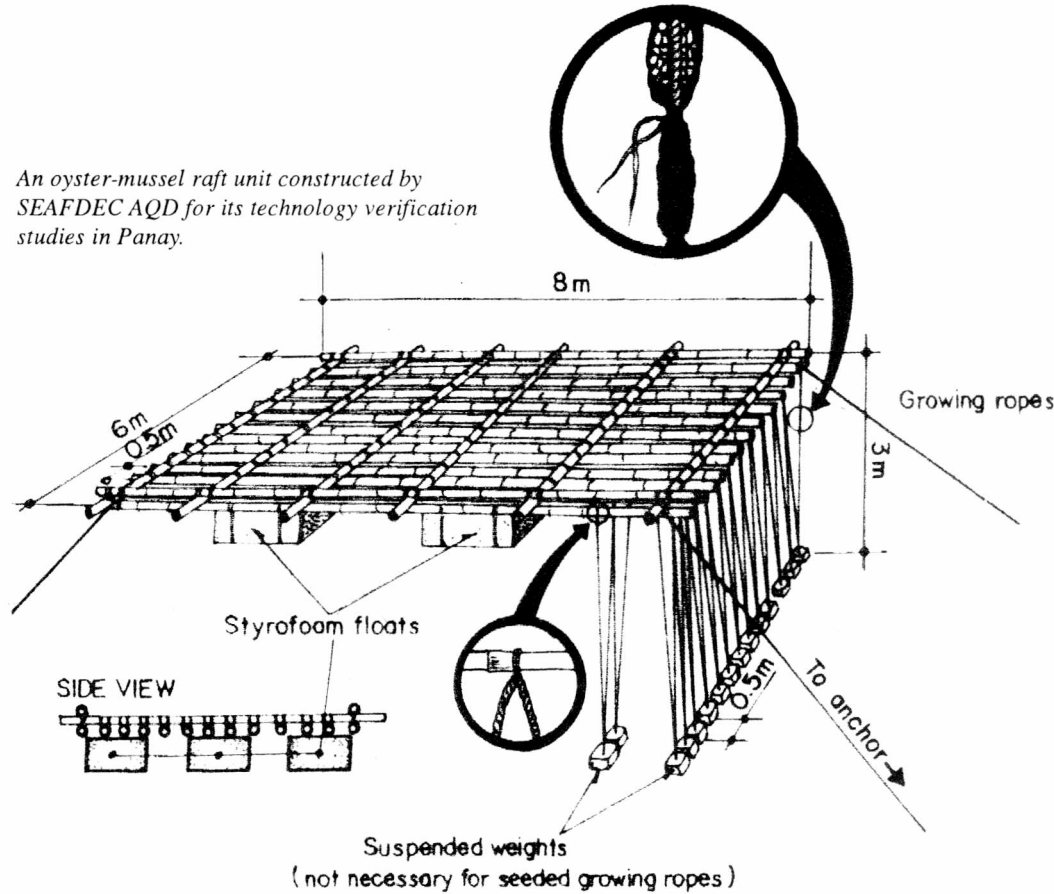
1 CONSTRUCT A HANGING RAFT

Construct a 6 x 8 m hanging raft made of bamboo (see figure). For flotation, use cement-coated styrofoam blocks fastened together with a strong netting material. Anchor the raft to the bottom.

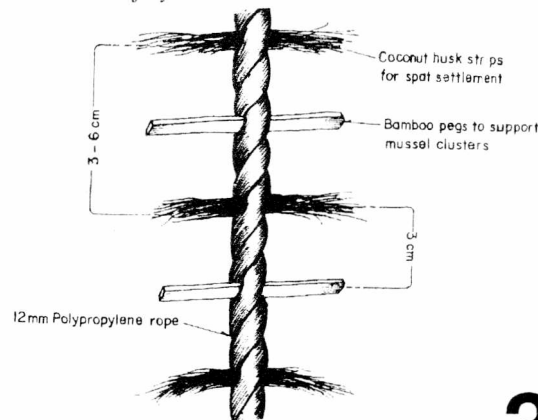
2 COLLECT SPAT

Oyster larvae are attracted to polished empty oyster shells (the inside part). Hence, string the shells on collector polyethylene or polypropylene ropes

An oyster-mussel raft unit constructed by SEAFDEC AQD for its technology verification studies in Panay.



Detail of a mussel collector rope: spat collection is the most critical phase of oyster-mussel culture.



(20 mm diameter) at 5-6 cm intervals. Hang these ropes on the raft, spacing them 10 cm apart and tying weights to the ends of the rope to

keep them vertical. Once the collector ropes become heavy with spat settlement, hang the collector ropes in their final positions on the bamboo frames. [See also related story on spat collection in this issue.]

For mussels, grow the spats to a diameter of about 0.5 cm before transferring to grow-out ropes. Detail of spat collector is illustrated on this page.

3 THE GROW-OUT PHASE

Hang grow-out ropes at intervals of 40-50 cm, depending on water depth at low tide.



Oyster-mussel farming can be an aquaculture component of a coastal resource management strategy for poverty alleviation and food security. This is AQD's mussel-oyster project site in Ivisan, Capiz.

Inspect the raft regularly to monitor the condition of the oysters or mussels.

Regularly remove any predators and foulers like crabs, starfish, barnacles, sponges, etc. as these add extra weight to the raft and prey on the growing oysters or mussels. Also check the clearance of the collector ropes from the bottom.

Measure the weights and lengths -- the most convenient indicators of growth -- of oysters or mussels every week.

4 HARVEST

Harvest the stock after 4-6 months or as soon as the sizes are acceptable in the market.

Economics and costings

TVP (1998) says that farmers can potentially earn a net income of around P13,000 with a return-on-investment of 74%, and a payback period of 0.9 years. This is from a potential yield of 11.5 tons per raft sold at P2.5 per kg.



A rope full of marketable mussels

Farmers need to invest about P 17,500, broken down as follows: P13,300 for cost of materials, P1,200 for cost of labor, and P3,000 for making the raft.

Advantages

AQD's hanging raft culture method has several advantages. The distinction between seed collection and grow-out stages enables the farmer to collect the maximum

number of spats on his ropes and later to make them grow at a faster rate and higher survival.

The close arrangement of growing ropes utilizes all available water volume to enable the mussels and oysters to feed well. Transplantation and thinning-out prevent overcrowding and enables more uniform growth so that the farmer is able to estimate his harvestable crop.

The raft system makes it less laborious to collect, transplant and harvest the larger number of oyster or mussels grown.

Inspection and maintenance of growing ropes is relatively easier than bamboo poles. Also, the materials can be used over and over again for several years. Predation is minimized on the suspended mussels or oysters while fouling can be kept at a low level by regular cleaning.

Furthermore, the hanging ropes do not accumulate silt and make the area shallower as do the close-set bamboo stakes.

With regular maintenance and good management, an oyster/mussel farmer and his family can expect continued harvests from his raft for many years.

REFERENCE: Technology Verification Project (TVP). 1997. *Verification and commercialization of oyster and mussel culture by hanging rafts in Capiz and Aklan*. TVP / SEAFDEC Aquaculture Department, Tigbauan, Iloilo.

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