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Industry Trends



As BFAR sees it...

Aquaculturists of the Bureau of Fisheries and Aquatic Resources (BFAR) told newsmen that the agency has been encouraging fish-pond owners to shift to grouper culture.

"Prospects are very bright for grouper culture in ponds," said Lutgarda Penolio, Chief of the brackishwater section of BFAR and grouper culture consultant at the Technology and Livelihood Research Center (TLRC).

"Pound for pound, live grouper today commands a price in the international market almost as high as that of shrimps. So, we should consider that growing lapu-lapu is far simpler and less costly than growing shrimp. Grouper is also sturdier and has bigger chance of survival in captivity," she said.

Grouper is raised in ponds and cages in many areas of Bulacan, Quezon, Mindoro, Pangasinan, and Iloilo.

Small-scale grouper culture started in the mid-70s, but it was only two years ago that its dollar potential was realized. At present, local grouper culture is not as widespread as shrimp and milkfish and its technology, especially cage culture method, is not as advanced as in Hongkong, Singapore, and Taiwan.

"The labor and feed-intensive nature of cage culture method compelled us to concentrate more on improving the traditional method of pond culture, which, as in the case of lapu-lapu ponds in Binuwangan, Obando, Bulacan, has already proved to be successful," said Penolio.

She said BFAR is now trying to shorten the culture of the species and develop other lapu-lapu feeds.

According also to BFAR, grouper fisheries production in the Philippines increased from 13 817 t in 1978 to 24 403 t in 1984. Although this contribution is very low in volume, grouper fisheries is significant in terms of both domestic income and export earnings. For over seven years, 85.52% of grouper production was contributed mainly by the artisanal fishermen, using the hook and line, longline, handline, gill net, fish corral, fish pot/trap, and spear gun as his fishing gears. The export value of this fish, both live and frozen, has increased tremendously from P10 915 to P4.6 million, with Hong Kong and Singapore as the major markets. Other markets include USA, France, Germany, Italy, Japan, Australia, Taiwan, and Malaysia.

in Samar...

In Guiuan, eastern Samar, there are seven genera and 25 species of groupers that have so far been identified and three more species whose identification has to be confirmed. The fishermen are encouraged to catch more than what they could consume because of a ready market in the town's public market or in buying stations.

A trading company buys live grouper from fishermen every day and stocks them in floating net cages for shipping to Hongkong. Another source of livelihood for Guiuan fishers is the sale of small fishes which serve as food for live grouper of the trading company.

Source: CR Pagdilao. *Harnessing grouper fishery for the small fisherman*. **The PCARRD Monitor**, V.15(1), Jan 1987.

Source: AG Chua, "*Lapu-lapu*" is potential dollar earner. **The Manila Times**. 4 Mar 1989.

in Bulacan...

Grouper culture in ponds in Obando, Bulacan was spearheaded by Alfredo Santos, one of the eight fishfarmers in the area currently engaged in the activity.

The grouper farm is located in the Binuangan Island along Dampalit River. Five hectares are devoted to grouper culture, 1 ha for polyculture of milkfish and prawn, and 0.3 ha for the production of salt. The ponds range from 0.3 to 1.5 ha each. The dikes of the ponds are reinforced with bamboo stakes and nets to ensure that clay and rocks do not slide back into the pond area.

Mr. Santos and other farmers obtain grouper fingerlings and juveniles from Manila Bay, Bataan, and Cavite. Length of grouper for stocking range from 7.6 to 15.2 cm. The export quality fingerlings cost 25 for 12.7 cm in size and -17 for < 5.1 cm size.

Grouper is fed tilapia fingerlings purchased from tilapia farmers in Malabon, and with marine fishes locally known as *kapag*. The frequency of feeding depends on the amount of the remaining tilapia in ponds. Usually 5-10 *bañeras* (1 *bañera* = 45 kg) of live tilapia are broadcast into a 1 -ha pond every 2 wk. For one cropping cycle (6-8 months), 100-200 *bañeras* of tilapia (200/*bañera*) are required per hectare. The culture period lasts for 6-8 months, wherein the fish attains 0.5 -1 kg weight. Out

of 5000 fingerlings stocked, at least 4000 attain marketable sizes. Survival rate ranges 80-96%.

In harvesting market-sized grouper, Mr. Santos either drains the pond completely or scoops out the fish by using hook and line or nets: The fish are placed in plastic cages for transport to the market. Grouper can stay alive for about an hour out of water.

Mr. Santos sells the live grouper to hotels and restaurants or in the Aranque market where the family owns a stall. He usually delivers 200-300 kg/day of grouper in selected hotels and restaurants in Metro Manila. He sells grouper for P180-220/kg.

Source: DL de Guzman. *Grouper farm in Obando: A bright prospect. PCAMRD Waves*. V. 1 (1), June 1988.

in Dagupan...

Lapu-lapu culture has greater money-making potential than you think, it could rival, if not surpass, the phenomenal shrimp industry. That's the opinion of Joe de Guzman who has been growing lapu-lapu in floating cages in Barangay Salapingao, Dagupan City during the last five years.

Joe has been operating a 2500 m² area where he has set up 100 floating cages of 2 x 2 m each. Each cage has a double net. The structure includes styropore raft and wooden planks measuring 5 cm x 25 6 m. 6 m. The materials are costly so a cage normally costs about P2000 to build. The cage has a service life of at least one and a half years.

Can you recover the high cost of the cage?

Easy, according to Joe.

Here's how. Usually, 13-cm fingerlings costing P30 each are used for stocking. In the early stage, one cage will contain 300 to 400 fingerlings. Three months after stocking, some will have to be transferred so that there will be more room for the growing fish, leaving 200 per cage.

Six to seven months from stocking, *lapu-lapu* is usually ready for sale. One live fish normally fetches P120 ex-farm. Expenses in-



clude P30 for the fingerling and another P30 for feeding and care.

From one harvest, therefore, the 200 lapu-lapu will give you a gross of P24 000. Subtract the fingerling cost (P6000) and the cost of feeds and care (another P6000) and you will have P12 000 left. Deduct the entire cost of the cage (P2000) and you will still have P10 000 left. And you can use the cage without repair for two more croppings. Very clear, isn't it? Multiply that by a hundred if you have 100 cages and you'll really be impressed.

Source: Z Sarian. *Lapu-lapu is a sleeping giant*. **Agribusiness Weekly**, 7-13 Apr 1989.



In Taiwan...

Greater profits made C.H. Shieh switch from tiger shrimp (*Penaeus monodon*) to grouper cultivation eight years ago. Mr. Shieh has 25 years of aquaculture experience in Yang An, located in Kaohsiung, southern Taiwan.

The selling price for 1 kg of grouper is \$500 New Taiwan (NT) dollars (US \$18.50) compared to NT \$270 (US \$10.00) for one kg of tiger shrimp (NT \$27= US\$1). Grouper is considered a delicacy throughout Asia. Grouper cultivation has also spared Mr. Shieh from the deadly disease that plagued many Taiwanese shrimp farms in 1988.

The 5-ha farm has 11 earthen ponds measuring 100 m x 50 m x 2 m deep. Seawater is pumped through the ponds at 20% of pond volume per day. Using 32 1-hp aerators increase yields by 30% and add to profits for this veteran farmer.

Grouper fingerlings (4.6 cm) are stocked at 30 000-40 000 pieces per pond. Harvest size varies with customer demand. A 1 -yr grow-out produces 0.6-kg size; a 19-month grow-out yields 2-kg size. Production is 30 000 - 40 000 kg/ha/yr with 80% survival.

Source: *Greater yields, profits and more*. **Aqua - O₂ News**, V.2(1), May 1989.

Diseases of Penaeid Shrimps in the Philippines

This manual by SEAFDEC/AQD senior fish health researchers is available under a **new** cover.

First printed in 1990, the manual is considered to be AQD's best seller. It notes the viral, bacterial, fungal, protozoan, and nutritional-toxic-environmental diseases of the three major species of shrimps cultured in the country: *Penaeus monodon*, *P. merguensis*, and *P. indicus*. The manual also details the common names of the diseases,

causative agents, species affected, stages affected, gross signs, effects on the hosts, and methods of prevention. Illustrations are in full color.

It costs P200. Write to Sales/Circulation, SEAFDEC/AQD, Tigbauan, Iloilo 5021.

