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# The milkfish industry in Taiwan

Aquaculture Department, Southeast Asian Fisheries Development Center

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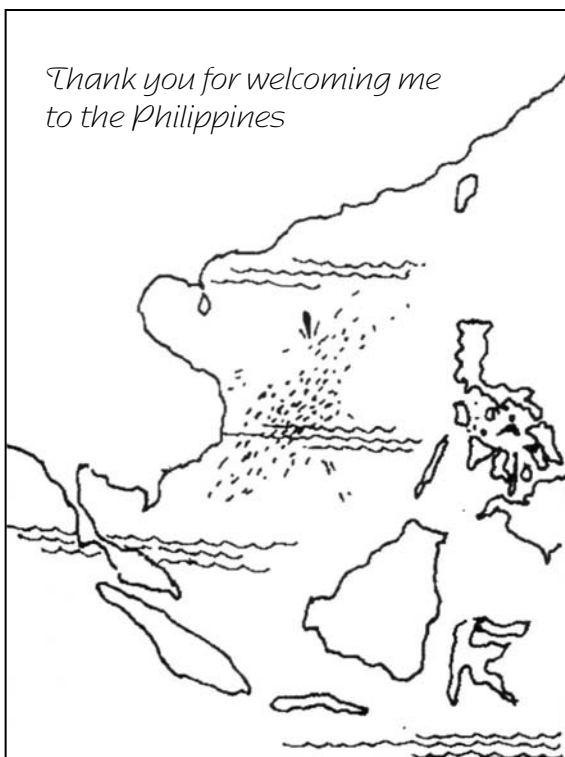
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# The milkfish industry in Taiwan

Milkfish culture has a history of over 300 years in Taiwan. For decades, the industry ranked first. From simple practices in the 16th century, the industry became highly developed with several specialized sub-businesses (see diagram and photos next page). These specializations make production more efficient, increase croppings in a year, and distribute business risks.

It was not until 1978 that the first success in the artificial propagation of milkfish was reported. In Taiwan, the first successful induced spawning occurred in 1979 and the first successful spontaneous spawning in 1983. This breakthrough assured Taiwan's fry supply which used to be imported from other countries in southeast Asia. The annual demand for fry in Taiwan is more than 100 million.

Since 1987, fry production from hatcheries was higher than that collected from the wild (see table). Milkfish fry are collected from April to October (peak season, April and July). In 1990,



Source of milkfish fry in Taiwan (x 10<sup>6</sup>)

Year	Hatchery	Wild <sup>1</sup>	Imported <sup>2</sup>	Total
1987	100	30-40	10-30	140-170
1988	60	30-40	10-30	100-130
1989	110	10	10-30	130-150
1990	134	11	10-30	155-175
1991	90	7	7-10	104-107
1992	150	30	30	210

Based on survey of wholesalers and hatchery farms.

<sup>1</sup> Collected from coastal waters off Taiwan.

<sup>2</sup> Imported from southeast Asian countries.

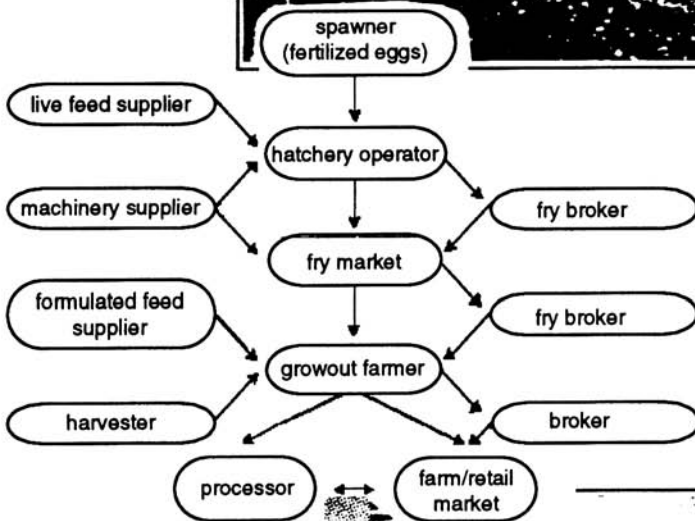
the hatcheries provided more than enough fry to meet the domestic demand despite poor survival rates.

Because broodstocks are rarely caught in the wild and are not available from commercial grow-out ponds, hatchery operators raise their own broodstocks for artificial propagation. Milkfish do not become sexually mature until after five years at least.

In 1990, the industry suffered economic distress due to overproduction. The price of market-sized milkfish dropped from US\$2.30-3.80 per kg to US\$1.50-1.70 per kg. Overproduction is partly attributed to the entry of tiger shrimp farmers who shifted to milkfish farming after the 1988 crisis in the tiger shrimp industry. Milkfish fry production also exceeds demand.

Farmers and hatchery operators need to plan and balance the demand and supply ratio. Efforts will be channeled towards developing better processed products to reduce the "boniness" factor and to attract more consumers especially the younger generation. Milkfish specialty restaurants can be established which can also serve as outlets for valued-added products.

Excerpted from I Chiu Liao. 1993. *Finfish hatcheries in Taiwan: recent advances*. In: C-S Lee, M-S Su, I - C Liao. 1993. **Finfish Hatchery in Asia; Proc. Finfish Hatchery in Asia '91**. TML Confr. Proc. 3 Tungfang Marine Laboratory, TFRI, Taiwan and Oceanic Institute, Hawaii, USA.



The diagrammatic presentation of Taiwan's highly specialized and compartmentalized milkfish industry. Taiwan's research institute uses concrete ponds to spontaneously spawn milkfish (above); these are aerated to facilitate egg collection. Fishfarmers also use ponds for spontaneous spawning (below).

