

Southeast Asian Fisheries Development Center

Aquaculture Department

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Aqua Farm News

1989

Kaleidoscope of the prawn industry

Aquaculture Department, Southeast Asian Fisheries Development Center

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KALEIDOSCOPE OF THE PRAWN INDUSTRY

Item One: View of Cause-oriented Group

A study conducted by the Negros Council for Peace and Development (NCPD), a non-government organization, showed that prawn (*Penaeus monodon*) farms in Negros, Central Visayas, have disastrous effects on the economy and the environment. Prawn producers, a minority, rather than hundreds of small-time Filipino businessmen, would soon have the monopoly of credit offered by financial institutions. This is so because the IMF-World Bank and affiliates prefer prawn projects which allow the government and the private sector to pay back the country's billions of dollars of foreign debt. With this financing, the industry further paves the way for foreign control of the country's economy.

Foreign groups cashing in on the prawn boom are the Japanese and the Taiwanese businessmen, with the Japanese controlling processing and export, and the Taiwanese, formula feeds and pond equipment. They have poured P11 billion in investments since last year, and the Taiwanese have even branched out into the poultry industry.

Although Negros prawn growers claim that they will be able to employ 20,000 people by 1990, only 7% of the investment in the industry goes to the workers. While seven to eight workers could be employed in a hectare of sugarcane field, only three are needed in a prawn farm.

The livelihood of thousands of people also has been adversely affected by prawn farms, the NCPD said. Ricefields were destroyed during flash floods and typhoons in the Valladolid and Binalbagan towns after prawn growers constructed dikes and dams to divert freshwater into their farms. People in Magalona and Victorias towns further complained that poison, especially teaseed cake, destroys breeding grounds of fish when flushed out of the ponds. Weavers of nipa shingles also reported losing their only job when swamps where nipa grows were converted into prawn farms. As a result, the price of nipa shingles sky-rocketed.

The effects of the prawn industry on the ecology are also disastrous. Among the irreversible consequences are denudation of 75% of mangrove swamps, draining of underground freshwater table, and subsequent seepage of seawater into springs and deep wells, and sinking of land surfaces. The study also rang alarm bells on lands converted into prawn farms as these become infertile or unproductive for later use with land crops.

Antonio Claparols, President of the Ecological Society of the Philippines, in opposing the construction of these ponds, said that the prawn industry has a productive life cycle of only 10-20 years as determined by economic forces. Meanwhile, the ponds will yield lower productivity and poor-quality prawns due to diseases. "Today, the landscape of Negros alone has been geographically altered by aquaculture development. The coastal area is there but is reduced yearly at an alarming rate. At times, I fear we may see our beloved Island of Negros turn into a desert atoll surrounded by water, with its rich soil, our natural and agricultural bounty, lost forever," Claparols said.

Source: News Express, February 8-14, 1989.

Item Two: A Personal Touch

From Bacolod City came a very sad letter. It complained about the assault on the ecology by the booming prawn industry in Negros Occidental. The letter said that this early, the prawn industry has brought irreparable damage to the environment. Prime lands are being converted into ponds; trees and houses are being uprooted; man-made floods are becoming more frequent; freshwater supply is endangered. Those with more money rush headlong into prawn-raising without thinking of its dire impact on the ecology.

Anguish and resignation were etched all over the letter: "I would know very well because my family happens to be victims. We live near the river (salty, because it is near the sea). We have a small orchard which has been giving us considerable income. Because of the prawn rush, the land adjacent to ours was bought and converted into a prawn farm. A few months after production started, the leaves of our jackfruits began to fall. The trees then died. Our mango trees did not die yet but they stopped bearing fruits. Our guavas tasted differently. The coconuts became smaller. And our deep well which services the neighborhood, has become polluted. Now we have to get our drinking water from a relative who is 400 meters away. My family's problem is the problem of many more families in the entire province. What price for progress. While a few moneyed ones are raking in the millions, a big majority suffers."

Source: Art A. Borjal. "Jaywalker." *The Philippine Star*, January 14, 1989.

Item Three: Lesson from Taiwan

The culture system used for *P. monodon*, the species with which Taiwan has staked its claim to aquaculture history, has caused a serious problem with the water table, resulting in a partial settling of land in the vicinity of the aquaculture areas. This arises from the uncontrolled use of freshwater drawn indiscriminately from the underground water table. The use of underground freshwater is the result of the current practices of the prawn farmers in Taiwan who dilute seawater with freshwater to obtain brackish-water. As the success of the culture of *P. monodon* increased, so did the use of freshwater. By depleting the natural freshwater table, land depression results. In some areas, land had settled so much that an originally two-storey house became a single storey. Too much dependence on underground water has resulted in a much lower water table which, in turn, led to a serious competition for the use of freshwater between agriculture and households.

Certain warnings must be considered with the onset of more intensive aquaculture such as the impact on the environment and possible subsequent impact on the industry. Land depression and diseases are manifestations of this impact. Often, the various farmers were so impressed by the success of their neighbors that they embarked on an aquaculture enterprise without adequate or basic knowledge of the possible adverse consequences. While this results in a rapid increase in production, what is actually occurring is a skipping over of crucial steps in the rational expansion of aquaculture.

In the light of the foregoing problems, Taiwan is making advances in other areas of aquaculture. Like Japan, Taiwan is exploring the possibility of initiating stock enhancement programs. Such a study has already been carried out and has resulted in a 15% recovery rate of tagged *P. monodon* which were released into the sea at an average body weight of 50 g, and when recaptured showed an average growth rate of 30 g/month. The limited natural resources of Taiwan do not interfere with this method, which, perhaps, will prove to be the future direction for aquaculture. However, this new technology is being adopted slowly and only through a series of exhaustive tests to determine and prevent the possibility of any adverse impact on the environment of Taiwan.

Source: I-Chiu Liao, 1988. Status and prospects for aquaculture in Asia. In: *Aquaculture International Congress and Exposition Proceedings*; Vancouver, British Columbia, Canada: 6-9 September 1988.

Item Four: Sea Monsters on the Loose in America



This giant tiger shrimp is one of many that fishing crews have caught on the east coast of the US since some have escaped from a research laboratory in South Carolina. Scientists and shrimpers alike are wondering how the shrimp (*Penaeus monodon*) will affect native species of the crustaceans. The shrimps weigh up to 110 grams.

Source: *New Scientist*, October 29, 1988.

Item Five: Message to Growers and Financiers

Our agricultural resources are threatened by poor stewardship. Take the denudation of the mangrove forests, for example. In 1968, the country had 448,310 hectares of untouched mangrove forests. At present, only 110,000 hectares remain. One major cause of this denudation is their conversion into fishponds, and, lately, prawn ponds.

The continuing attrition of our mangrove forests has led to the destruction of breeding and nursery grounds of many marine fishes, the erosion of shorelines, and the displacement of subsistence fishermen who depend on these swamps for a living.

Another example: With the proliferation of grow-out farms, particularly those of the intensive type, excessive pumping of freshwater from the underground has lowered the water table, sank land surfaces, and caused the seepage of seawater into springs and deep wells. Furthermore, flushing brackishwaters from prawn ponds has led to salinization and microbial infestation of neighboring agricultural farms and irrigation systems.

Meanwhile, the outbreak of diseases in hatcheries and grow-out ponds has encouraged the indiscriminate use of antibiotics, many of which we also use for treating human diseases. This practice raises the risk of developing not only immuned prawn pathogens, but also drug-resistant human pathogens.

These are but a few samples of how we mismanage our finite resources. The situation puts us in a dilemma. On one hand, we need to maintain and even expand prawn culture. On the other hand, the ecological problems that our present methods of production entail are so great, no amount, not even billions of exports earnings, can compensate for the loss.

But we can grab the dilemma by the horns, so to speak, by exploring the following options:

One, we can all agree on ecologically based limits to freshwater wells of prawn farms through a licensing system.

Two, we can gradually shift from highly intensive to semi-intensive and extensive prawn farming systems. This could greatly reduce freshwater pumping, and lessen the prawn diseases and use of antibiotics.

Three, we can raise prawn species that thrive on purely marine water, instead of those that survive only in brackishwater. Along this line, SEAFDEC is conducting experiments on *Penaeus indicus* and *P. merguensis*.

A lot of research, verification, and dissemination have to be done first, of course. But the point is: there are alternatives.

One last point. Government's efforts in increasing the productivity and profitability of agricultural industries, including prawn, focus on the participation and welfare of our small farmers. Our priority concern is to alleviate poverty among agricultural workers. While we therefore work to achieve production goals, we also seek to achieve social justice and equity for the least advantaged in the countryside.

The real challenge for us, then, is how we, the prawn farmers and the government, can enhance the productivity and profitability of the prawn industry and at the same time achieve equity and sustainability in agriculture.

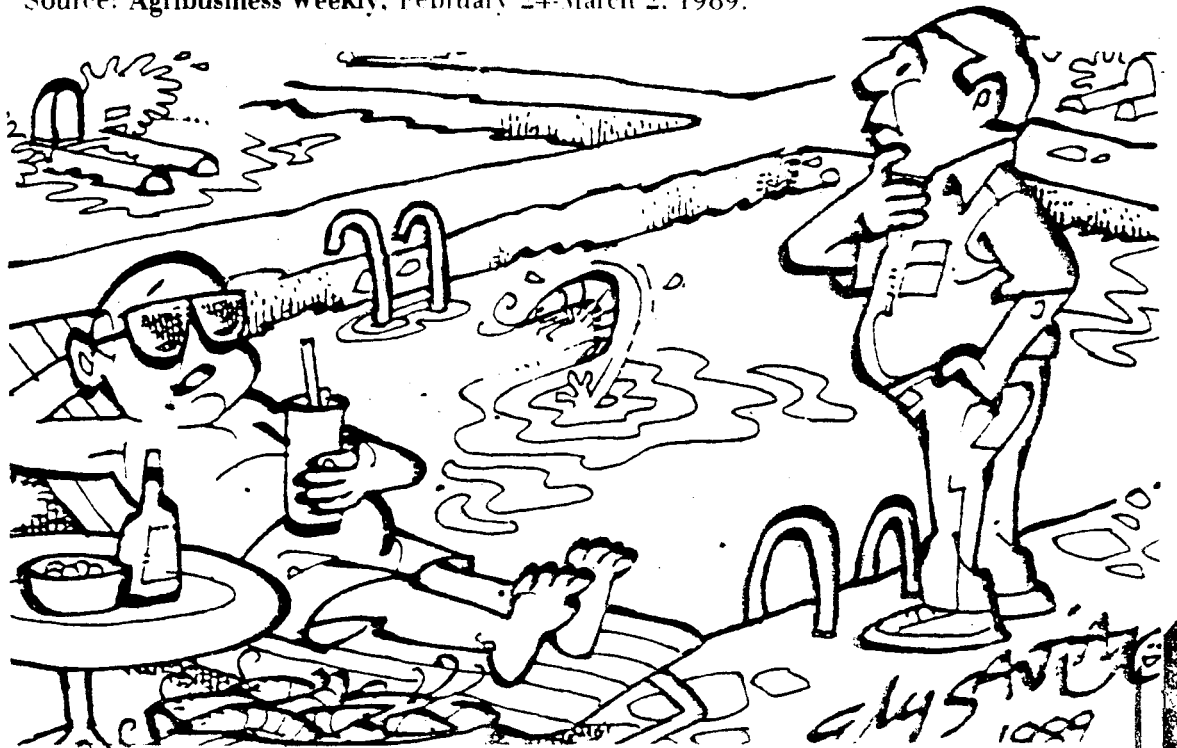
Source: Department of Agriculture Secretary Carlos G. Dominguez. "The Prawn Industry: Meeting Today's Challenges," speech delivered at the First Congress of the Philippine Prawn Industry, Bacolod City, November 25, 1988.

Item Six: Dose of Humor



"That's our 'Aerator-Cycle' Model. It saves you energy costs and it's good for your health!"

Source: Agribusiness Weekly, February 24-March 2, 1989.



"I believe in mixing business with pleasure!"

Source: Agribusiness Weekly, January 6-12, 1989.

Item Seven: Media Blitz — a Battle of Ads

Magazines and dailies proliferate with advertisements of prawn feeds, farm equipment and chemicals being used, showing the magnitude of the industry. How long will the boom last?



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