

INCREASING MILKFISH PRODUCTION

"The fishing industry in the Philippines offers vast potential for expansion, and if milkfish can be induced to spawn in ponds and rivers, production of this protein-rich food can be increased by ten times."

This is the gist of a report by Dr. Howard P. Clemens, professor of zoology and fish culture expert of the University of Oklahoma, who spent a month in the Philippines as consultant of the US-AID mission.

Clemens' observation is that the Philippines could boost milkfish or bangus production many times its present level of output by the improvement of farm management techniques.

A director of the Fisheries Research Center at Norman, Oklahoma, Clemens spent much of his time with local fish culturists, assisting them in the use of hormones for artificial spawning.

Milkfish culture is undertaken in widely-scattered sections of the country. However, Dr. Clemens observed, local fish farms depend on the sea for their supply of milkfish fry.

He said fish farmers would not have to resort to natural sources, if the "sabalo," *mother bangos*, which provides the fry, were caught and stocked in fishponds or hatcheries for spawning purposes. To undertake the technique, the *sabalo* is needed in large quantities.

Clemens suggested two approaches to spawning milkfish:

1. Obtain the "sabalo" just before spawning and inject the fish with hormones to induce the activity.
2. Catch the "sabalo" on its migration to the sea and place it in salt water ponds to be nourished and later injected for gonadal growth and eventual spawning.

"If the mature specimens, in the case of the first approach, are difficult to obtain," Clemens explained, "a method for handling the 'sabalos' in captivity would have to be developed."

He said that the second approach would be a long-term process, but that once the requirements were worked out, it would be just a matter of administering the materials for spawning the fish.

Clemens cited the need for building more fishponds, both brackfish and freshwater, and adopting improved fish farm management techniques in order to have an immediate increase in milkfish production. Milkfish production in the Philippines now totals 63,000 metric tons annually. — *Adapted from the Manila Times, February 15, 1967.*

CIVILIZATION AND GOVERNMENT

The more perfect civilization is, the less occasion has it for government, because the more it does regulate its own affairs, and govern itself; but so contrary is the practice of old governments to the reason of the case, that the expenses of them increase in the proportion they ought to diminish. — *Thomas Paine.*