

# AQUANEWS

THE NEWSLETTER OF THE POND DYNAMICS/AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM

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## OVERVIEWS

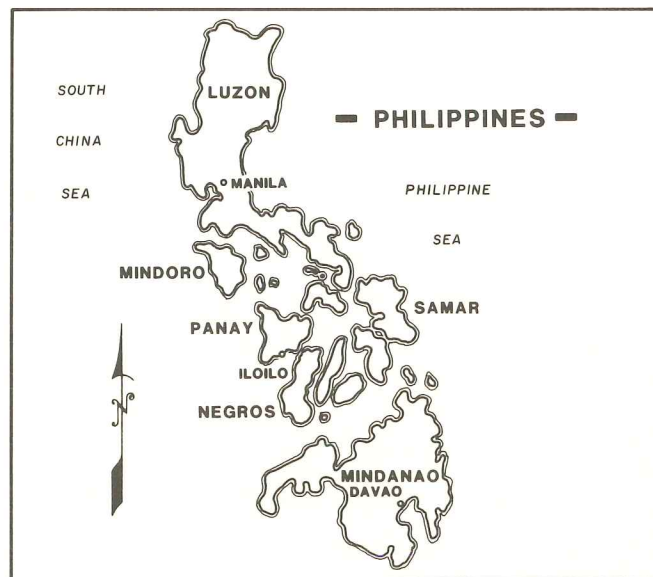
This August marks the end of our second operational year. During this year we have carried out our program of parallel pond dynamics experiments at five of six host country sites. Participating U.S. and host country researchers met last April in Atlanta, Georgia to discuss the preliminary results of their research. This led to a refinement of the standardized CRSP research plan. Researchers will continue to carry out a common set of experiments involving the production of tilapia under different pond fertilization regimes, but they will also begin to attack site specific research problems.

We have also been able to launch a new data management system. Using a network of Apple IIe computers and tailored software, we plan to gather the data collected at the various CRSP sites and compile it to form a single data base. Our next challenge will be to systematically analyze this data using mainframe computer systems.

We look forward to an eventful third year. The program is reaching a point where we can shape an enlightened research plan, thanks mainly to the careful baseline work that is being carried out by our U.S. and host country Research Associates. The current status of each of the projects is summarized below:

HONDURAS-AUBURN UNIVERSITY . Bart Green and Hermes Alvarenga have progressed mid-way through the second phase of the first cycle of pond dynamics experiments.

INDONESIA-MICHIGAN STATE UNIVERSITY . Bette Premo and Komar Sumantadinata have



## MAINSTREAM THE PHILIPPINES-UNIVERSITY OF HAWAII PROJECT.

The Philippines is a nation of more than 7000 islands and about 50 million people. The country has a long tradition of fishing and aquaculture. Today, there are more than 190,000 hectares (465,000 acres) of brackishwater fish ponds in the Philippines, mainly dedicated to the culture of milkfish, tilapia and shrimp.

Production from brackishwater ponds is relatively low, averaging about 600 kg/ha (550 lb/acre) per year. Even so, this accounts for nearly 10 percent of the nation's fisheries production. Using existing technology, it would be possible to more than double aquacultural production in the Philippines. These increases are important since fish production is expected to more than double over the next 20 years and the ocean catch

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(OVERVIEWS continued)

initiated the second phase of the first cycle of experiments. Bette will be returning to the U.S. in early October, and will be resigning her role as U.S. Research Associate this December. Cal McNabb, the U.S. Principal Investigator for the project will be visiting the Bogor site to assist in the completion of the experiment and to supervise the installation of a water conditioning system. Dr. Ted Batterson of MSU will be joining the CRSP as a Co-P.I.

PANAMA-AUBURN UNIVERSITY . David Hughes, Orlando Garcia and Azael Torres have begun the first phase of the second cycle of experiments with penaeid shrimp at Divisa and Aquadulce. Experiments with tilapia are now underway at the freshwater station in Gualaca. Auburn University is in the process of naming a U.S. Research Associate, who will work with Nely Serrano to carry out the CRSP experiments at Gualaca.

PHILIPPINES-UNIVERSITY OF HAWAII . (See "Mainstream" on page 1.)

RWANDA-OREGON STATE UNIVERSITY . Valens Ndoreyaho, the host country Principal Investigator for this project, and U.S. Research Associate Boyd Hansen report that construction and pond reconditioning at the National University of Rwanda aquaculture station are nearing completion. The first cycle of CRSP experiments is being initiated.

THAILAND-UNIVERSITY OF MICHIGAN . CRSP research activities have been moved to a new site, located one hour northwest of Bangkok near Ayutthaya. This site is considered superior to the original research site at Nong Sua for several reasons, including better water quality conditions and easier access. Kwel Lin and Vijai Srisuwantach have initiated the wet season phase of the first cycle of experiments at the new site. Supplemental research on sex-related differences in growth rate will be carried out at the host country site and in the U.S., under the supervision of U.S. Principal Investigator Jim Diana. ■

(PHILIPPINES continued)

fishery will be unable to meet the increased demand.

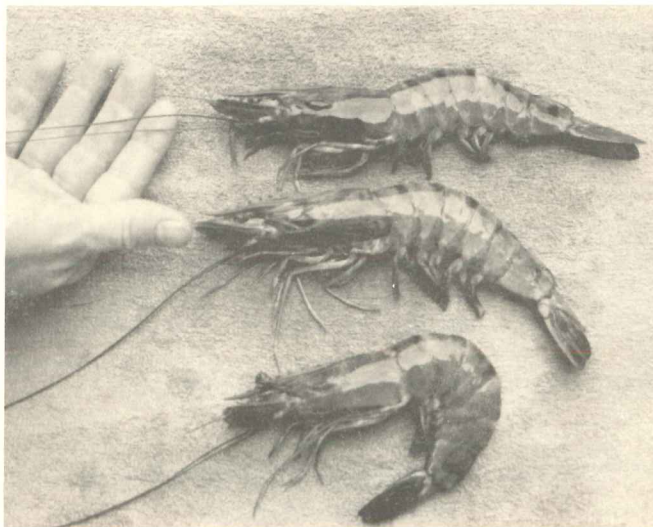
In response to this challenge, the government of the Republic of the Philippines has actively sought to strengthen capabilities in aquacultural research, training and extension. With support from organizations such as the U.S. Agency for International Development, the Brackishwater Aquaculture Center (BAC) of the University of the Philippines in the Visayas (UPV) was built and became operational in 1974. The BAC is centrally located, 650 km (400 miles) south of Manila on the island of Panay in the island group known as the Visayas. Facilities are among the best in the world. They include offices, class rooms, wet and dry laboratories, a feed processing unit, a nursery and hatchery building, and 215 ponds with a collective water surface area of 18 hectares (43 acres).

These fine facilities have provided the stage for a number of collaborative research efforts involving Filipino and visiting scientists. An agreement signed in June 1983 established a CRSP project at the BAC, to be carried out under the joint leadership of the UPV and the University of Hawaii. Drs. Jose Carreon, Philip Helfrich and Aric Fast serve as the Co-Principal Investigators for the



**The Brackishwater Aquaculture Center of the University of the Philippines in the Visayas.**





**The Giant Tiger Prawn (*Penaeus monodon*) grown at the CRSP research site in the Philippines.**

project; and Drs. Romeo Fortes and James Woessner are the CRSP Research Associates in residence at the BAC. Dr. Fortes, the Director of the BAC, oversees a staff of more than 60 people mainly involved in work on pond culture practices, water quality management, and acid soil renovation.

The CRSP project is being carried out according to a standardized research plan, also being used in parallel projects at five other host country sites. Two pond dynamics experiments, each five months in duration, were completed this past July. Eighteen of the BAC ponds were treated with inorganic fertilizer, and stocked with either milkfish (*Chanos chanos*) or tilapia (*Tilapia nilotica*). A wide range of physical, chemical and biological parameters were measured periodically to determine baseline conditions at the project site.

A second year of experiments are scheduled to begin this fall. Work with tilapia will continue, although CRSP researchers at the BAC also will be joining with the CRSP team in Panama to conduct experiments with penaeid shrimp. Ponds will be treated with either inorganic or organic fertilizers and water quality and production indicators will be carefully monitored. Research results will be added to those collected at the other CRSP sites and analyzed to determine underlying patterns. ■

## CRSP PROGRAM MANAGER'S MEETING

A meeting of CRSP Program Managers and representatives of AID and the BIFAD was held on May 23-24, 1984 in Rosslyn, Virginia. AID scheduled the meeting to keep the CRSP managers abreast of the policy and budget situation within the Agency. Dr. Anson Bertrand, the Director of AID's Office of Agriculture within the Bureau for Science and Technology noted that CRSP researchers have been successful in building good working relationships with AID Mission personnel within participating host countries. It was stressed that the linkage between CRSP goals and regional needs should be clearly articulated. Top-level AID administrators have reaffirmed their commitment to the CRSPs, despite the tight budget situation within the Agency.

Mr. William Fred Johnson of the BIFAD announced that revised CRSP guidelines have been issued. These will serve as a general model for CRSP development. The progress of each CRSP will be evaluated during triennial program reviews. The first triennial review for the Pond Dynamics/Aquaculture CRSP is scheduled to take place in Spring 1985. ■

## SELECTION OF STATISTICAL SOFTWARE

Analysis of CRSP project data can be carried out on-site using a microcomputer. The capabilities of various commercially available statistical software packages are reviewed in the following articles:

Pease, J. W., R. Lepage, V. Kelly, R. Laker-Ojok, B. Thelen, and P. Wolberg, 1984. An Evaluation of Selected Microcomputer Statistical Programs. MSU International Development Working Paper No. 15, Michigan State University, Lansing MI. 187 pp. (To order send \$7.00 to Department of Agricultural Economics, 7 Agriculture Hall, Michigan State University, East Lansing, MI 48824-1039).

Carpenter, J., D. Deloria, and D. Morganstein, 1984. Statistical Software for Microcomputers. Byte (April): 234-264. ■

## BULLETINS

- A second research plan, entitled CRSP Work Plan: Second Experimental Cycle, was issued this summer. The document reflects the findings of CRSP scientists who met at the Second Annual Research Planning Workshop held last April 10-12 in Atlanta, Georgia.
- A new CRSP Directory, listing the addresses and telephone numbers of program participants, was prepared this June by Carman McBride of the Program Management Office.
- A CRSP data management system, involving a network of Apple IIe microcomputers, will become operational this fall. The software for the system, "General Manager" (Sierra On-Line, Coarsegold, CA), was tailored to meet the needs of the CRSP by Mr. Jim Buston, then of Auburn University.
- Principles and Practices of Pond Aquaculture: A State of the Art Review, the background document prepared for the CRSP, is being revised at the University of California at Davis for publication by the Oregon State University Press.

### POND DYNAMICS/AQUACULTURE CRSP CALENDAR

October 9	Organizational Meeting for Program Evaluation, Denver, CO
October 15	Deadline for Project Annual Reports and Quarterly Activity Reports
December 31	CRSP Annual Administrative Report Submitted to AID



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## AQUANEWS

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