

NOTICE OF PUBLICATION

POND DYNAMICS/ AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM

RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: A data base management system for research in pond dynamics

Author(s): Kevin D. Hopkins¹, James E. Lannan², and James R. Bowman³

1. College of Agriculture, University of Hawaii at Hilo, 200 W Kawili St Hilo, HI 96720

2. PO Box 594, Blodgett, OR 97326

3. Department of Fisheries and Wildlife, OSU, 104 Nash Hall, Corvallis, OR, 97331-3803

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Abstract: This paper describes a data base management system used in the analysis and synthesis of data from a global experiment investigating dynamics of tropical farm ponds. Data synthesis is directed toward developing comprehensive farm pond management models. The experimental plan includes standardized data collection on physical, chemical and biological variables on 12 or more ponds at each of seven locations in Africa, Central America, and Southeast Asia.

Field data from each location are compiled on microcomputers at the project sites. Project staff at each site perform routine statistical analyses and presentations of these data sets using statistical and graphics software packages of their choice. Field data are forwarded to a central office for filing on a mainframe computer. More sophisticated data analysis and syntheses (modeling) are done on mainframe computers.

The standardized experimental design and centralized data base management system facilitates analyses of observations within ponds, between ponds within locations, and between locations. This design allows identification and analysis of both general and site-specific considerations over a broad range of environmental conditions. We propose that aquaculture scientists standardize data collection and management to permit direct

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comparisons of observations among and between research projects. The resulting comprehensive data base will improve understanding of the dynamic processes that regulate productivity in tropical farm ponds.

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