

# NOTICE OF PUBLICATION

AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM



## RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

**Title:** Economic Analysis of Nile Tilapia (*Oreochromis niloticus*) Production in Tanzania

**Author(s):** Aloyce R. Kaliba <sup>a</sup>, Kajitanus O. Osewe <sup>b</sup>, Ephraim M. Senkondo <sup>c</sup>, Berno V. Mnembuka <sup>d</sup>, Kwamena K. Quagrainie <sup>e</sup>

a: Aquaculture/Fisheries Center, University of Arkansas at Pine Bluff, 1200 North University Drive, Pine Bluff, Arkansas 71601 USA

b: Kingolwira National Fish Farming Center, Ministry of Natural Resources and Tourism, P.O. Box 6110, Morogoro, Tanzania

c: Department of Agricultural Economics and Agribusiness, Sokoine University of Agriculture, P.O. Box 3007, Morogoro, Tanzania

d: Department of Animal Science and Production, Sokoine University of Agriculture, P.O. Box 3004, Morogoro, Tanzania

e: Department of Agricultural Economics, Purdue University, 403 W. State St., West Lafayette, Indiana 47907 USA

**Date:** 30 October 2007 Publication Number: CRSP Research Report 06-A3

The CRSP will not be distributing this publication. Copies may be obtained by writing to the authors.

**Abstract:** In Tanzania, Nile tilapia culture is a promising aquaculture enterprise. Information on production costs could assist fish farmers in economic and financial planning. Economic profitability of small-scale Nile tilapia production in Tanzania is analyzed using a model that simulates individual fish growth and takes into account fish population dynamics in the pond. The results suggest that the current practiced mixed-sex tilapia culture without predation is not economically sustainable. Extension efforts should be geared toward developing a Nile tilapia production system that is based on a hand-sexed all-male tilapia. Meanwhile catfish can be introduced in ponds to control overcrowding in mixed-sex tilapia culture without predation. Studies to determine optimal pond sizes, availability of feed, and a quality fingerling supply chain are also fundamental for developing a sustainable Nile tilapia production system in Tanzania. Under improved Nile tilapia production systems, returns are high enough to justify investment through borrowed capital from formal institutions.

This abstract is excerpted from the original paper, which was in *Journal of the World Aquaculture Society* 37(4):464-473.

**CRSP RESEARCH REPORTS** are published as occasional papers by the Program Management Office, Aquaculture Collaborative Research Support Program, Oregon State University, 418 Snell Hall, Corvallis, Oregon 97331-1643 USA. The Aquaculture CRSP is supported by the US Agency for International Development under CRSP Grant No.: LAG-G-00-96-90015-00. See the website at <pdacrsp.orest.edu>.