

Who's Working on Reservoir Fisheries in Developing Countries?

Like much of man's technology, water impoundments are two-faced. They can control floods, store water for power and irrigation, and can be stocked with fish to feed a hungry world. On the other hand, rising waters have inundated ancestral lands and destroyed plant and animal habitats. This article considers the literature on capture fisheries and their development in developing-country reservoirs. Cage aquaculture was considered in the July 1986 issue of *Naga*.

The Aquatic Sciences and Fisheries Abstracts (ASFA) covering the period from 1971 to 1988, the ICLARM library and professional staff collections were used in the literature survey.

There were 498 items found, with the majority published in journals written in English, although French, Portuguese, and Spanish were occasionally used. Surprisingly, the earliest was a 1956 article on the fishery potential of Africa's Lake Kariba. The publication rate accelerated through the 1960s, averaging 6 articles per year, and the early 1970s averaging 32. Since then the rate has slowed down in all fields to an average of 16 articles per year.

Seventy-five per cent of all papers were African studies, 23% Asian, and 1% Latin American. There was one article from the South Pacific. However in recent years there have been more articles on Asian than on African reservoirs.

The area which saw the most rapid growth is fish yield data and projection/modeling (13 times increase in the 1970s over the 1960s). Overall, management investigations are on the increase and the opposite is true for fish biology. There is a trend towards fisheries management studies in this decade.

Seventeen major research areas were recognized, with 60% of the items concentrated in four (Fig. 1). Included in the heading "others" are the following: limnology, stock assessment, socioeconomics, marketing, fish handling, fish processing, stocking and introduction of

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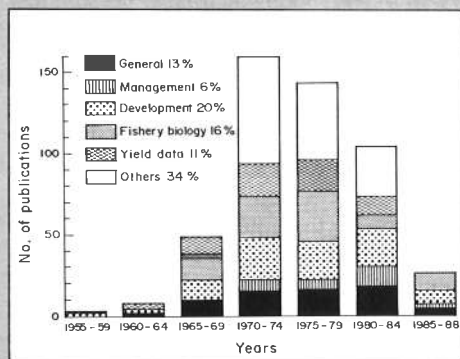


Fig. 1. Growth of the literature.

species, control of predators, taxonomic keys, ecological studies, boat building, and reviews/ bibliographies. Boat building, was restricted to African literature. Areas needing more attention are processing and fish handling to maximize the benefits derived from the fisheries.

The focus of African literature has varied over time. In the 1950s, it was fisheries development; general discussions in the 1960s; fish biology in the 1970s; and yields/yield prediction and modeling in the 1980s.

In Asia, fisheries development has been the most prominent area of research since the 1960s. There is, however, a rapid diversification of research in the present decade with a trend towards management.

One bibliography included 70% of the literature surveyed. This was E.O. Ita and T. Petr's "Selected bibliography on major African reservoirs" published as FAO/CIFA Occasional Paper 10 in 1983. This document contains references on the fish resources and fisheries of 10 major African reservoirs and selected rivers.

"Management of Fisheries on Large African Reservoirs - An Overview" by J.M. Kapetsky (address: as T. Petr's, below) in G.E. Hall and M.J. Van den Avyle (eds.) "Reservoir Fisheries Management, Strategies for the 80's", published in 1986 by the Reservoir committee, Southern division, American Fisheries Society (address below) discusses the state and future of African reservoirs. "Reservoir fisheries management and development in Asia", edited by S.S. de Silva and published by the International Development Research Centre of Canada in 1988 (IDRC publication 264e) is the Proceedings of a workshop held in Kathmandu, Nepal in late 1987.

Some research facilities are: the Kainji Lake Research Institute, P.M.B. 666, New Bussa, Kwara State, Nigeria (contact: J.S.O. Ayeni); the Lake Kariba Fishery Research Institute, P.O. Box 75, Kariba, Zimbabwe (contact: B.E. Marshall); the Department of Zoology, University of Ghana, Legon, Ghana (contact: J. Vanderpuye); Department of Zoology, University of Ruhuna, Matara, Sri Lanka (contact: S.S. de Silva); and Zoology Department, University of Malaya, 59100, Kuala Lumpur, Malaysia (contact: Yap Siaw Yang). One long-time researcher on tropical lakes and reservoirs is C.H. Fernando (see his article on p. 12), Department of Biology, University of Waterloo, Waterloo, Ontario, Canada. Another resource person is T. Petr (address: Inland Water Resources and Aquaculture Service, FAO, Via delle Terme di Caracalle, 00100, Rome, Italy). The American Fisheries Society, Reservoir Committee, Southern Division, 5410 Grosvenor Lane, Bethesda, Maryland, USA published the Hall and Van den Avyle book above.

ICLARM can provide more information on reservoir fisheries. Write to Selective Fisheries Information Service, ICLARM, MC P.O. Box 1501, Makati, Metro Manila, Philippines, for details and costs involved.