



In some reservoirs, crops and vegetables (here tomatoes) are grown in the draw-down area of reservoirs using moisture and fertile soil.



Fish constitutes more than 60% of the animal protein content in the diet of the Ghanalans.

populations. The situation was partially attributed to higher densities of blue-green algae which suppress the growth and development of more useful green algae.

Zooplankton populations were considered poor in diversity and population sizes. Benthic invertebrate fauna were more abundant but apparently unstable.

Twenty-nine fish species were encountered in the three SWBs. Sixteen of the species were known food fishes but only four—*Clarias anguillaris*, *Oreochromis niloticus*, *Sarotherodon galilaeus* and *Tilapia zillii*—were of fisheries importance. Monthly experimental fishing showed that stocks of the impoundments would require enhancement and management to provide sustainable fisheries. Catches obtained and estimated potential yields from the reservoirs were considered to be relatively high. This was attributed greatly to the shallowness of the reservoirs.

In all three reservoirs, the ecological balance of fish communities could be improved.

Catch samples over the twelve months indicated that fish populations would be greatly suppressed if regular fishing is conducted on them without management.

The topography of sites in relation to water availability and seasonal flooding of area did allow consideration of pond culture of fish in the areas.

Our principal recommendations were that the water retention capacity of two of the SWBs (Busunu and Achubunyo) be improved by rehabilitation of reservoir walls. Fish stocks should be enhanced annually from material to be collected from the floodplains at the appropriate periods. Management of the reservoirs would have to be provided by

local authorities. Therefore, some informal education of the community is advised.

No pond culture enterprise was recommended in relation to these two reservoirs. However, opportunities to engage in fishpond culture which might be integrated with vegetable production were identified at the third (Mahama) reservoir.

Acknowledgements

This research was conducted with support from the Programme for Rural Action of the Deutsche Gesellschaft für Technische Zusammenarbeit (PRA/GTZ) in Ghana (Axel Fastenau and Margit Gutteridge). We acknowledge the cooperation of the Fisheries Department of the Northern Region and the West Gonja District Administration; the assistance of Mark Prein (ICLARM) in the formulation of the project; and the support of all IAB technical staff during the work.

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Answering the Needs of Users of the Centre de Recherches Océanographiques de Dakar-Thiaroye Documentation Center

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The Centre de Recherches Océanographiques de Dakar-Thiaroye (CRODT) Documentation Center was created in 1972 by the Food and Agriculture Organization of the United Nations. It currently holds 25,000 documents. Half are scientific reports. Most of the remainder are journal issues, of which 123 titles are current.

The library is staffed by one librarian who is responsible for the overall opera-

tions of the library. Trainees may be given specific tasks to perform as required.

The library is involved in collaborative activities with other national, subregional and international organizations (inter-library loans, exchanges, access to various databases such as RESADOC of the Permanent Interstate Committee for Drought Control in the Sahel (CILSS), ASFA and HORIZON of ORSTOM). Information is

provided through telephone, mail and visits to the Documentation Center.

The Library produces a directory of CRODT's publications, a directory of reprints, a monthly review of "SENEPECHE" contents, and a semi-annual list of books and documents received.

There are two categories of users, internal and external. Internal users are the Center's scientists and technicians. External users are composed of students,

foreign trainees, university teachers, decisionmakers and entrepreneurs.

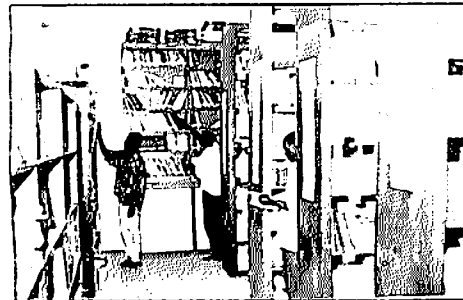
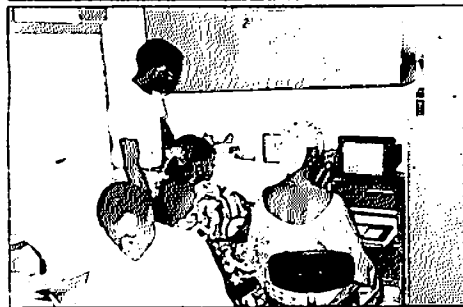
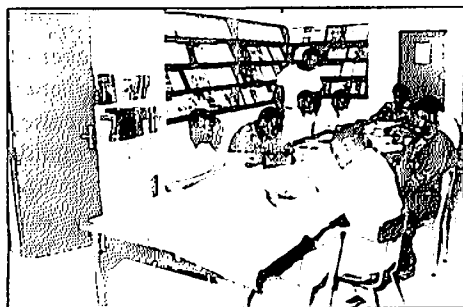
The documentation requirements of these different users are analyzed annually and submitted to the Center's Director who uses the results for a better orientation of research operations and to further improve the research-development relationship.

Documentation Requirements

The scientists requirements revolve around CRODT's major research orientations: fisheries assessment and management, environmental impact, economics and marketing, sociological studies, and satellite image processing.

To improve its performance, the Documentation Center regularly analyzes the scientists' documentation requirements. The evaluation method used to this end consists in a questionnaire together with other methods of analysis such as:

- personal and informal contacts with the users;
- feedback on library services;
- study of the users' research areas



- and documents provided;
- recording of the library loans;
- study of the library's classification system; and
- requests for suggestions on information sources to be used.

The latest analysis provided the following information:

- Almost half of the scientists devote less than 10% of their time to document searching; a third devote 10-30% and the remainder, essentially the young scientists who have not yet developed an extensive network of professional contacts or who work on a new research program, allot 30-50%. Nevertheless, all researchers visit the library regularly.
- While their needs vary according to their research, the needs of other users are more specific. Nearly all (80%) the external requests were for information on fisheries socioeconomics. Entrepreneurs were interested in statistics, processing, marketing and prices, as well as fish names and seasonal migration.

The most consulted documents are the following:

- Aquatic Living Resources
- *Revue d'hydrobiologie tropicale*
- *La pêche maritime*
- *Océanographie tropicale*
- *Canadian Journal of Fisheries and Aquatic Sciences*
- ICLARM publications
- *Fishery Bulletin*
- *Oceanologica Acta*
- FAO publications
- *L'annuaire des marées : ports d'Outre-mer*
- Scientific reports from other oceanographic research centers
- ASFA

Problems and Problem Solving

In the past, the library subscription list totalled 73 items. From 1991 to 1993, it was unable to subscribe to any journals. Only one document was regularly purchased, *L'annuaire des marées: ports d'Outre-mer*.


The library is insufficiently staffed to cope with the 100 to 180 documents received every month. (Before the onset of our financial constraints, the library received between 200 and 300 documents monthly). The shelves are now insufficient to hold the mass of documents received.

Library data are computerized using Texto software and an attempt has been made to use CDS-ISIS. However, the library microcomputer, a Goupil (G4), is no longer answering our needs and it often breaks down. Moreover, this type of equipment is no longer manufactured and spare parts may not be available in case of a serious computer failure.

Problems related to the acquisition, processing and dissemination of information are identified and discussed by a documentation committee whose objective is to contribute to the improvement of the CRODT's library operations.

This committee is composed of the chief librarian, the finance administrator and all program coordinators. Through the committee, this year the library was able to subscribe to several scientific journals for a total value of US\$5,400; purchase books and have the most important journals bound; add a new shelf; and acquire a new microcomputer (IBM PC-XT). Concerning staffing, the library hired three new trainees - a secretary, a data encoder and a professional librarian graduate.

The library also uses the channel of the Center's open days to present its services followed by discussions, through which the librarian establishes a direct dialogue with the scientists. The last discussion was about sources of information and access to primary literature.

To improve the CRODT library, it will be necessary to increase the budget in order to subscribe to major journals and acquire basic literature. Also there is a need to increase the library space, increase the library staff, further the training of the chief librarian on CDS-ISIS, and seek technical assistance of institutions like ICLARM. 

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