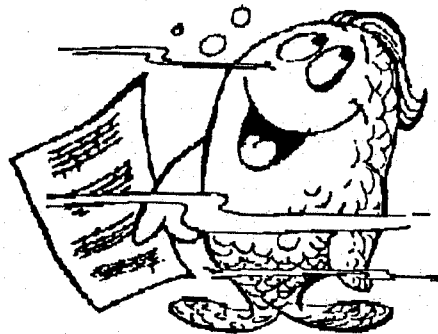


**Report to the Overseas Development Administration**

**BARRIERS TO THE DEVELOPMENT OF AQUACULTURE IN SUB-SAHARAN AFRICA**

**Research project ODA-A02**

**Final report: April 1991.**



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Research project ODA-A02

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## **1. Project Objectives**

- 1.i. Produce a comprehensive literature survey on socioeconomic aspects of aquaculture in sub-Saharan Africa.
- 1.ii. Establish the present state of knowledge of factors affecting the successful introduction of aquaculture into Africa.
- 1.iii. Produce a detailed proposal for future field-based research on aquaculture in sub-Saharan Africa.

Though the objectives themselves were not modified, an additional one has been added:

- 1.iv. Produce an annotated bibliography of works covering socio-economic and socio-cultural aspects of aquaculture development, with a focus on sub-Saharan Africa.

## **2. Work carried out during the project duration**

2.i. During the project duration, library searches were carried out in the libraries of University of Sussex, Institute of Development Studies, Queen Elizabeth House, Oxford, the ODA, Stirling University, and the FAO in Rome. This involved both manual searching and the use of databases such as ASFA and CAB abstracts.

2.ii. Unpublished project reports from the FAO, ODA, other donors and some NGOs were reviewed. This was facilitated by the establishment of links with personnel from the various agencies, by letter and through meetings at FAO headquarters in Rome. Letters were written to a wide range of active aquaculture projects in Africa, requesting information about project activities. Requests for information were also made to a wide range of other organisations including: ICLARM (in the Philippines and Malawi), ALCOM, International Center for Aquaculture, Auburn University, the US Peace Corps; Fondation Sahel Aqua Viva; EEC; Commonwealth Secretariat; ODNRI; USAID; NORAD; SIDA; DANIDA; GTZ; Oxfam; Christian Aid; IFS.

2.iii. In the course of research in Rome, the research officer met Mr Andreasson, the project manager of ALCOM, an FAO/SIDA regional programme of small scale aquaculture development in the SADCC region. Discussions at this meeting resulted in the suggestion that ALCOM might host any future phase of the research project.

2.iv. In November/December 1990, the research officer attended a workshop sponsored by ALCOM on the integration of women into fisheries and aquaculture development activities. The attendance at the workshop in the capacity of ODA observer was an unscheduled part of the research, but proved to be an extremely valuable exercise, both from the point of view of the literature review and to aid in the refinement of the proposal for phase two. Case studies presented at the workshop provided useful insights into many of the issues arising from the earlier research. The workshop provided the opportunity to meet with a wide range of people working on aquaculture projects in Africa and to discuss project plans with ALCOM staff. The research officer presented a paper on critical issues in the integration of gender concerns in aquaculture development which provoked fruitful discussion.

2.v. Preparations were made for a follow-up research project to be undertaken in Luapula Province, Zambia, and at the University of Sussex. Preparatory discussions were held with ALCOM personnel and with researchers from the Institute of Aquaculture. Research clearance procedures in Zambia were initiated.

### 3. Results

3.i. An annotated bibliography of literature concerning socio-economic dimensions of aquaculture development has been produced and accompanies this report. The bibliography focuses on aquaculture development in Africa but includes some references to material from Asia where this is deemed relevant. The bibliography is supplemented with a geographical and thematic index.

3.ii. A review of the literature concerning socio-economics of aquaculture development, especially the problems faced by African aquaculture development, has been produced. The review is designed to complement and accompany the annotated bibliography.

The literature review discusses a range of literature relating to socio-economic and socio-cultural aspects of the adoption of aquaculture in sub-Saharan Africa.

It reveals a dearth of research looking in any detail at the social and economic conditions surrounding aquaculture development. Those studies that do exist have tended to focus on short term survey techniques which gather quantitative data but which provide relatively few insights on processes and the more disguised effects of attempts at technology transfer.

In Section One, a variety of issues are explored and clarified. The differences between aquaculture and capture fisheries are elaborated. The point is made that aquaculture in Africa is in many senses more similar to farming than it is to fishing. Different types of aquaculture are discussed. Given the predominance of small scale and extensive aquaculture in Africa, the constraints and possibilities confronting this form of aquaculture is the focus of the literature review.

Following discussion of the range of rationales for aquaculture development from the points of view of both adopters and promoters, the conceptual difficulties surrounding ideas of success and failure in aquaculture development are considered. The suggestion is made that there is a need to be aware of the less visible impacts of development interventions, including aquaculture. The standard measurements of success and failure, such as levels of production and numbers of adopters, do not necessarily reflect all changes within communities. Though promoters' rationales for aquaculture development may be given in terms of improved nutritional status and well-being for some of the most disadvantaged groups, it is suggested that less attention is given to how such things are to be measured in project evaluations.

Section Two addresses the specific problems of African aquaculture development. Given the lack of reliability of statistics relating to small-scale aquaculture development - particularly as regards the partiality of the information conveyed, emphasis is not given to quantification. Rather a range of examples of project related case histories from diverse parts of the continent are discussed.

The third section considers the range of explanations concerning problems of aquaculture development. It is noted that many of these are not exclusive to aquaculture and may equally arise in other aspects of rural development. Aquaculture has certain technical prerequisites which are discussed in terms of their interaction with social and economic conditions. Two critical aspects of successful aquaculture development are further identified. These are adoption and sustainability. Merely counting the number of adopters of the technology is not of itself enough to indicate the longer-term viability which will depend not only on characteristics of the adopting community, but on wider structural and institutional factors. Adoption itself is dependent on the interaction between aquaculture promoters and communities; on constraints and incentives. The potentials of farming-systems approaches to development are elaborated and limitations concerning participatory planning discussed.

The final section outlines future areas for research and significant gaps in the literature. The question of the relative merits of non-governmental organisations versus bilateral donors and government programmes is raised. This is a central question which was not discussed in the literature. The review concludes with an analysis of possible future directions for aquaculture development in Africa.

3. iii. A project proposal for a follow-up Phase Two was submitted to the Institute of Aquaculture and funding has been agreed for the period April 1991 - April 1994. The research is designed to throw light on the questions raised in the literature review. A period of detailed fieldwork in Luapula Province of Zambia, in collaboration with ALCOM/GOZ extension activities in the area, will generate indicators and guidelines for future project activities. It is anticipated that the research will both benefit project activities in Zambia and provide the basis for indicators and guidelines to make ODAs aquaculture development activities more effective in the future. These indicators will be tested in selected sites in the third year of the project. A research officer based at the University of Sussex will work in association with an officer from the Institute of Aquaculture who will monitor the techno-economic questions raised.

#### **4. Implications of the results for achieving project objectives**

The results obtained indicate that the project objectives have been achieved as planned and on schedule. There is no need to revise the project objectives.

#### **5. Priority tasks for follow-up.**

5.i. It is intended that the literature review will be circulated to relevant individuals and organizations concerned with aquaculture development including donor agencies and research institutions.

5.ii. The literature review will be submitted for publication in Recent Advances in Aquaculture.

5.iii. The work for phase two has already commenced. The research officer will leave for a six week preparatory phase in Zambia at the end of April. During this period, details of collaborating links will be finalised, secondary data collected, and key issues and research sites identified through techniques of participatory rural appraisal.

#### **6. Summary of financial expenditure.**

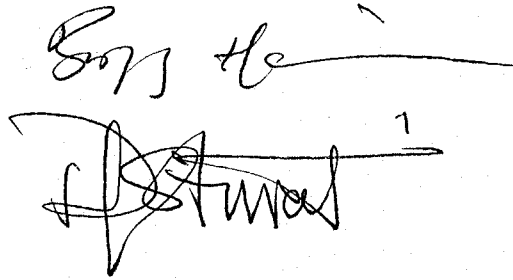
Salary	12,320.45
Equipment	6,208.69
Consumables	665.07
Travel UK	301.75
Overseas	2,581.40
Overheads	4,942.47
<b>Total</b>	<b>27,019.83</b>

**7. Contributing personnel**

Dr R.L. Stirrat  
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Two handwritten signatures are present. The top signature is 'R.L. Stirrat' and the bottom signature is 'E.A. Harrison'. Both signatures are written in black ink and include a horizontal line extending to the right.