



PD/A CRSP SEVENTEENTH ANNUAL TECHNICAL REPORT

REGIONAL OUTREACH IN AFRICA

*Eighth Work Plan, Kenya Research 5 (8KR5)
Final Report*

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ABSTRACT

Regional outreach activities were undertaken under the Eighth Work Plan as a means of disseminating information developed through CRSP research; giving CRSP researchers opportunities to learn about fish culture practices, research priorities, and research activities in other parts of Africa; encouraging efforts to create linkages between research and extension activities in the region; and in general continuing the process of making contacts and regionalizing CRSP efforts in Africa. CRSP researchers in Kenya attended meetings of District Fishery Officers of Central Province and a meeting for Provincial Fisheries Officers (Kenya). During these meetings the PD/A CRSP was described, pond management recommendations were outlined, proposed on-farm trials were discussed, pond census forms were distributed, information was provided on sex-reversed tilapia, and the results of a feeds and fertilizer experiment at Sagana Fish Farm were presented. Students doing research at Sagana in connection with that experiment also presented short summaries of their research findings. Several regional meetings were attended by CRSP personnel during the reporting period. The first was the 5th Session of the Organization of African Unity's Scientific, Technical, and Research Commission (OAU/STRC) Inter-African Committee and Symposium on Oceanography, Sea and Inland Fisheries, Mombasa, Kenya, 4-8 May 1998. The meeting was hosted by Fred Pertet, member of the OAU/STRC and host country Principal Investigator for CRSP research in Kenya. Karen Veverica and Bethuel Omolo also attended this meeting, which provided an excellent opportunity to publicize the CRSP and to present Sagana Fish Farm as an ideal aquaculture training site. Veverica and Omolo also attended the 8th Annual East African Environmental Network (EAEN) conference, 29-30 May 1998, Nairobi, where they presented an invited paper entitled "An overview of aquaculture practices in East Africa: Potential environmental impacts and prospects for sustainable livelihoods." CRSP participants from Kenya and the US attended the PARADI/FISA conference held in Grahamstown, South Africa, 13-19 September 1998. Nine aquaculture and fisheries presentations (oral and poster) were made by CRSP or Kenya Fisheries Department participants. CRSP PIs helped organize and conduct a workshop (*Aquaculture in Africa—Quo Vadis*) to examine what has previously been done to promote aquaculture in Africa, to look at successes and failures among those efforts, and to discuss how the sub-Saharan region might become an important player in aquaculture in the future. Through contacts made at these meetings and conferences, CRSP researchers, collaborating scientists, and students are developing a better understanding of the research and extension needs for aquaculture development in Africa. Other participants are also gaining a better understanding of the research and extension needs of the region, as well as learning about the CRSP. Linkages have been established that will enhance further correspondence and exchanges of ideas on these issues and on how future programs can be more effective.

INTRODUCTION

Regional outreach activities were planned under the Eighth Work Plan as a way to disseminate information derived from CRSP research; to give CRSP researchers opportunities to learn about fish culture practices, research priorities, and research activities in other parts of Africa; to encourage efforts to create linkages between research and extension activities in the region; and in general to continue the process of making

contacts and regionalizing CRSP efforts in Africa. This document is the final report on CRSP regionalization efforts undertaken in Africa under the Eighth Work Plan.

MATERIALS AND METHODS

Plans for regional outreach included teaching short courses for extension agents at the Naivasha Fisheries Officer Training Center and at the Lake Basin Development Authority in

Kisumu (both in Kenya), attending meetings at the Southern Africa Development Community (SADC) fisheries coordination center, and actively participating in meetings of the Fisheries Society of Africa (FISA).

RESULTS AND DISCUSSION

Extension Agent Short Courses

The initial plan was to participate in courses given at the Naivasha Training Center for fisheries officers and to contact the Lake Basin Development Authority (LBDA) to offer short courses for extension agents. However, after submission of the Eighth Work Plan, the Naivasha Training Center was handed over to the Kenya Wildlife Service, and fisheries officers are no longer trained there. Also the LBDA in Kisumu has not pursued aquaculture activities during the last two years, so it could not be used for training. In an effort to disseminate information to extension personnel, meetings of District Fishery Officers of Central Province were attended, and a meeting was held for Provincial Fisheries Officers.

During the first meeting, held 25–26 November 1997, Karen Veverica presented an overview of pond management recommendations and presented the PD/A CRSP to attendees. The proposed on-farm trials were discussed and pond census forms were distributed.

For the second meeting, held 7–8 April 1998, Veverica presented information on sex-reversed tilapia and offered collaborating farmers all-male fingerlings to compare with mixed sex fingerlings on their farms. Guidelines for record keeping and pond management were handed out. The results of the experiment on rice bran and fertilization (Veverica et al., 1999a) were presented. Each of the students doing research at Sagana (Veverica et al., 1999b) presented a short summary of his or her research findings.

Attendance at Regional Meetings

The following regional meetings were attended by Veverica and Omolo:

1. Fifth Session of the OAU/STRC Inter-African Committee and Symposium on Oceanography, Sea and Inland Fisheries, Mombasa, Kenya, 4–8 May 1998. Fred Pertet, member of the OAU/STRC (and Host Country Principal Investigator for the Africa Project) hosted this session. Representatives from Cameroon, Ghana, Kenya, Mauritania, Nigeria, Senegal, Tunisia, the Food and Agriculture Organization of the United Nations (FAO), and the Southeast Asian Programme in Ocean Law, Policy and Management (SEAPOL) attended.

Karen Veverica and Bethuel Omolo attended the meeting and set up a table with CRSP publications and descriptions of the PD/A CRSP program. This was an excellent opportunity to publicize the CRSP to attendees from several countries and to present Sagana Fish Farm as an ideal training site.

2. Karen Veverica and Bethuel Omolo attended the Eighth Annual EAEN (East African Environmental Network) conference, 29–30 May 1998, at the Louis Leakey Memorial Hall, National Museums of Kenya, Nairobi. They presented an invited paper entitled "An overview of aquaculture practices in East Africa: Potential environmental impacts and prospects

for sustainable livelihoods." Member countries of the EAEN are Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Tanzania, and Uganda. The EAEN is a regional non-profit NGO committed to sustainable development in Eastern Africa. Papers presented at this conference are published in a proceedings volume.

Participation in Fisheries Society of Africa (FISA) Meetings

The first and only FISA meeting to be scheduled during the Eighth Work Plan took place in Grahamstown, South Africa, 13–19 September 1998. The conference was organized by two distinct African fisheries associations—the PARADI Association and the Fisheries Society of Africa (FISA). CRSP participants who attended this meeting included Karen Veverica, Wilson Gichuri, Jim Bowman, Dr. Luc De Vos (representing Mr. Fred Pertet), and Tom Popma. In addition, partial sponsorship for conference attendance was provided to three Kenya Fisheries Department (FD) officers: Mr. Booker Odour (Deputy Director of Fisheries and treasurer of FISA), Ms. Nancy Gitonga (Assistant Director of Fisheries and FISA secretary), and A.L. Aloo (Lecturer at Kenyatta University). Nine presentations (oral or poster) were made by these CRSP and FD participants:

- Semi-intensive *Oreochromis niloticus* (Cichlidae) and *Clarias gariepinus* (Clariidae) polyculture in ponds receiving rice bran and chemical fertiliser in Kenya, by W.M. Gichuri, K.L. Veverica, J.G. Omondi, P.N. Mwau, P.I. Bilal, and K.N. Mavuti (poster presented by W.M. Gichuri).
- Use of grasses from pond levees to promote *Oreochromis niloticus* (Cichlidae) production: Application rates, methods and resulting water quality, by K.L. Veverica and E. Rurangwa (oral presentation by K.L. Veverica).
- A review of lime requirement determination methods for aquaculture ponds, by J.R. Bowman (oral presentation).
- Current status and problems of fisheries in Kenya, by F. Pertet (poster).
- Present status of the fish fauna and fisheries of Lake Baringo, Kenya, by L. De Vos, F. Pertet, K. Vanlerberghe, S. Nuguti, and M. Ntiba (oral presentation by L. De Vos).
- Fish diversity in the Lake Tanganyika system with emphasis on the Rusizi basin in the north and the Lufubu system in the south, by L. De Vos (oral presentation).
- Factors influencing oviposition, larval growth and mortality of blowflies found in smoked fish in Kenya, by N.K. Gitonga (poster).
- Investigation into the effect of salt treatments in reduction of post harvest losses of Nile perch (*Lates niloticus*) during smoking and storage, by N.K. Gitonga (poster).
- Parasitic fauna of tilapia species from Lake Naivasha and the Oloidien Bay, Kenya, by P.A. Aloo (oral presentation).

A book of abstracts was printed and distributed to conference attendees at registration, but full papers presented at the conference will not be published.

In addition, the CRSP contacted the conference organizers in February to inquire about the possibility of including a special discussion session on the status, constraints, and priorities of aquaculture in Africa in the conference. This was accepted and Jim Bowman was asked to serve as rapporteur for the session,

which was called *Aquaculture in Africa—Quo Vadis*. The purpose of this session was to examine what has previously been done to promote aquaculture in Africa, to look at successes and failures among those efforts, and to discuss how the sub-Saharan region might become an important player in aquaculture in the future. The discussion session was organized by Veverica, Bowman, Dr. Peter Britz, a senior lecturer at the Department of Ichthyology and Fisheries Sciences, Rhodes University (host institution for the conference), and Dr. John Balarin, who facilitated the discussion. This small organizing group identified a set of development objectives and strategies and presented them to the larger group for discussion. Participants voiced a wide range of views on the reasons for past failures of aquaculture development efforts in Africa. It rapidly became clear that the subject area was far too complex and the number of participants far too large to reach consensus within the time allotted (1½ hours) for the workshop. Balarin, Britz, Veverica, and Bowman plan to draft a discussion document that will be based on the objectives and strategies presented for discussion as well as the responses and experiences that were voiced in the workshop.

Discussions with potential collaborators at the conference regarding the establishment of a companion site were postponed pending final Ninth Work Plan funding decisions. Attendance at the conference did, however, give CRSP team members the opportunity to learn about research and extension efforts in many other African countries and to make the contacts necessary for future collaboration. CRSP publications were distributed to people from the following countries at the FISA conference: Cameroon, Eritrea, Gabon, Mali, Mozambique, Nigeria, Tanzania, Uganda, and Zambia.

Conference participants showed a lot of enthusiasm regarding uniting the PARADI Association and FISA, two previously

independent fisheries societies, to create a dynamic new organization. The CRSP will support this move by co-sponsoring the next meeting of the new, combined African fisheries society if possible. Such sponsorship would be consistent with plans laid out under the *Human Capacity Development* section of the *Continuation Plan* and would contribute to the further sharing of CRSP research results in the region.

ANTICIPATED BENEFITS

Through contacts made at these meetings and conferences in Kenya and other African countries, CRSP researchers and CRSP-sponsored students are developing a better understanding of the research and extension needs for aquaculture development in Africa. Other participants are learning about the CRSP, its research and other activities, and the results of its efforts. It is intended that they are also gaining a better understanding of the research and extension needs of the region. In any case, linkages have been established that will enhance further correspondence and exchanges of ideas on these issues and on how future programs can be more effective.

LITERATURE CITED

- Veverica, K., W. Gichuri, and J. Bowman, 1999a. Relative contribution of supplemental feed and inorganic fertilizers in semi-intensive tilapia production. In: K. McElwee, D. Burke, M. Niles, and H. Egna (Editors), Sixteenth Annual Technical Report. Pond Dynamics/Aquaculture CRSP, Oregon State University, Corvallis, Oregon, pp. 39–42.
- Veverica, K., B. Omolo, J. Bowman, and F. Pertet, 1999b. Training. In: K. McElwee, D. Burke, M. Niles, and H. Egna (Editors), Sixteenth Annual Technical Report. Pond Dynamics/Aquaculture CRSP, Oregon State University, Corvallis, Oregon, pp. 167–168.

