

STATUS OF THE INFORMATION PROGRAMME OF THE
NETWORK OF AQUACULTURE CENTRES IN ASIA
(NACA)

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Introduction

In 1982, a similar forum was held -- the SEAFDEC/IDRC Seminar on Fishery Information Science in Southeast Asia. The NACA presentation focused on an account of the aquaculture information programme, then in its initial stages, and at that time part of the inter-regional aquaculture information programme coordinated by the Aquaculture Development and Coordination Programme (ADCP) of FAO Rome. The main objective of that programme was the implementation of a strategy for rapid development of aquaculture in the Third World.

Today, six years since that gathering we meet again to take stock of progress made, targets fulfilled, and projects to be developed consonant with the development of fisheries and aquaculture region-wide. The Network of Aquaculture Centres in Asia has kept pace with progress in the aquaculture sphere and, in this connection, can cite further information developments other than those mentioned in 1982. At the same time, in keeping abreast of changing priorities, the Network is also re-aligning its information objectives through the revitalization of its computerized information activity.

Overview

The purpose of this paper is to provide a comprehensive view of the information programme of the Network of Aquaculture Centres in Asia. This will require an understanding of both the nature of NACA and the objectives of the organization, particularly in promoting expanded development of aquaculture in the region.

NACA by 1990 will become a regional intergovernmental organization. The effect of this development on the information programme is mainly that it will have a wider geographical coverage and a more diverse information needs to cater to. But the planned revision in the information programme provides not so much for diversifying its services as unifying the system. This thrust is elaborated elsewhere.

Meanwhile, as a backgrounder and to place the information programme in context, NACA started as a regional project of the UNDP/FAO. It was recommended for establishment during the 1976 Kyoto Technical Conference on Aquaculture convened by FAO. As a project, it has 11 member governments, namely Bangladesh, China,

India, Indonesia, Hongkong, Malaysia, Nepal, the Philippines, Singapore, Sri Lanka and Thailand. NACA also manages another UNDP/FAO regional programme, the Seafarming Development Project, with eight member governments from the region two of which, DPRKorea and Republic of Korea are not members of the NACA Project. DPRK however has signed the NACA Agreement and ROK has strongly expressed its intention to sign, while China, Nepal, Sri Lanka, and Vietnam have signed the Agreement. This illustrates how the coverage of NACA is greatly expanded.

Very briefly, the rationale for NACA is as follows: Asia has vast and varied aquaculture resources and aquafarming systems. While it holds high potentials, fish farming among the countries in the region are at different stages of development. Because of the variety of species, farming systems and national and regional priorities, past attempts made by FAO and other organizations to attract the support of the Consultative Group on International Agricultural Research (CGIAR) to set up an international centre for research on aquaculture had not been successful. Fish in its broadest form is unlike some major food commodities such as rice and poultry; it covers aquatic organisms in the plant and animal kingdoms, with the latter comprising both vertebrates and invertebrates.

Under the circumstances, FAO considered that the pooling of resources available in the region through collaboration among countries would be an effective way of expanding the development of aquaculture. It would be done by the countries sharing responsibilities in research, training and information exchange. This would allow optimum use of existing capabilities with minimum duplication of efforts. Since none of the existing national aquaculture institutions in Asia has all the facilities and staff needed to carry out the essential activities, and in response to national needs, a networking mechanism that would follow the principle of technical cooperation and developing countries was thus proposed to be established.

NACA aims to promote expanded development of aquaculture to increase production, improve rural income and employment, diversify farm production and increase foreign exchange earnings and savings. Collaboration among members has been perceived as a cost-effective means of pursuing the objectives.

The Network immediately addressed the following objectives: (1) conduct interdisciplinary research on selected farming systems for improvement and adaptation of existing technologies and development of new ones; (2) train core personnel; and (3) establish a regional information system to provide data for development planning, research and training. It is the third objective that is the concern of this presentation.

Objectives and Nature of the Information Programme

An information system is necessarily a supportive mechanism for research and development programmes.

NACA's information programme has three components: publications, audio-visuals in support of training courses, and a computer-based information system for numeric and bibliographic information. The exchange of information is effected in meetings and workshops, and through dissemination of materials among centres and participating institutions, within training courses and workshops and through personal exchanges among the workers. The programme aims to provide development support for planning, research and training in aquaculture. One feature of the information programme of the Network is that, as in research and training, the national and regional lead centres share responsibilities in the implementation of the information activities.

1. Publications component

The publications component of the NACA information programme consists of working papers (more than 70 to date) representing status or results of research conducted in the four Regional Lead Centres and other national aquaculture centres; the World Food Day publications series (represented by six technical manuals published to date), training reports and the Newsletter (three volumes published by the Regional Lead Centre in the Philippines; and the fourth volume published by the NACA Secretariat in Bangkok).

The working papers, manuals and other publications are intended to keep the participating governments abreast of the status of research going on in the various centres; while the manuals are intended to extend to the end-users the technologies developed as a result of continuing research. While demand for the working papers is high, circulation has been limited due to publications costs. However, the Network is making an effort to print the manuals and provide this at minimal cost to end-users (technicians, fishfarmers, and the private sector, aside from the government agencies), as part of the development objective of making information more easily available for the purpose of promoting production increases in aquaculture.

2. Audio-Visuals Production

The Project helped the RLCs strengthen their production systems for audio-visuals and encouraged the development of slide-sets and instructional video tapes. The Regional Lead Centre in the Philippines (the SEAFDEC Aquaculture Department in Tigabuan), has prepared a number of video films on various

aspects of aquaculture. As a direct support to this activity, the Network has sponsored the training of audio-visual/training staff members of the AQD on development communication support methodologies. The Regional Lead Centre in China has produced several instructional tapes for the training course on integrated fish farming; the Regional Lead Centre in India has also completed audio-visuals on carp farming; and the National Inland Fisheries Institute (Regional Lead Centre in Thailand) also has developed short films on prawn farming.

3. AQUIS: Nature and Purpose

The Information System (AQUIS) initiated by NACA as part of a global information network was meant to generate the essential farm and technology performance data required to develop and refine farm management methods. Such data was envisioned to form the basis for developing farm management methods and would have provided producers or investors the type of information they need in planning and managing their activities. However, the AQUIS Programme was started with funding only for the essential hardware and went into operation with the optimistic expectation that assistance would be readily available in the countries to collect the necessary data and maintain the system. The other problem was that it attempted to cover all systems of aquaculture. A considerable amount of data was collected during the short period that the system was in operation. Data on many parts of the system were inadequate for proper analysis and conclusions.

AQUIS is the software designed for the numeric information system and MINISIS the software for the bibliographic information installed in the NACA lead centres (RLCC, RLCI, RLCP and RLCT). The hardware system is the HP-3000 minicomputer. The lead centres have also used the computer for other applications. A constraint in the AQUIS has been the difficulty in getting the data inputs. What this implies is that the data collection end has been the bottleneck.

Plans for AQUIS

The Project is now in the process of modifying the applications for the existing information system. We have, at this stage, planned the activities required to re-work the system for these new applications. We intend to revitalize the programme and use it to obtain the basic data for farm management. Its focus will be narrowed down to a few but high priority species of farming systems in the region. Studies will be carried out on a

smaller number of aquaculture systems. Special attention is proposed to be given to the following priority farming systems:

- (1) Shrimp Culture
- (2) Pen and Cage Culture of Finfish
- (3) Carp Culture
- (4) Integrated Fish Farming
- (5) Mollusc Culture
- (6) Seaweed Farming

The main aim in each case, and for which the information system will be targetted, is to develop technology packages suited to typical farming conditions. Data collected will be confined to farm performance indicators.

NACA's objectives in revitalizing AQUIS are to collect and analyze information on the farm performance of high priority aquaculture species, commodities and production systems to guide producers and investors in planning and managing their aquaculture production activities; and to provide an information service to the aquaculture industry by acting as a clearing house for various types of aquaculture research and industry development information in the region. The processed data will enable the identification of strong and weak aspects of farming practices used at present and guide appropriate research for developing these farming practices into dependable technologies to accelerate aquaculture development.

There are two distinct but interrelated purposes of the proposed application: (1) it will serve applied research for the improvement and development of aquaculture production systems; and (2) provide an information support service to investors, planners and developers, managers as well as fishfarm operators. The same data collection and slightly different processing activities will fulfill these two purposes.

To re-orient the system towards the proposed applications and prepare for its implementation, the Network has on the drawing board the following activities:

1. A consultation among the heads of the Regional Lead Centres and concerned staff of the NACA Coordinating Unit on this proposal, particularly to agree on the concept and decide on the set of guidelines for its implementation.
2. A regional workshop involving the appropriate Regional Lead Centre and National Aquaculture staff, representatives of national nodal centres under the Seafarming Project, and other relevant personnel for the purpose of developing and agreeing on a programme of work.

3. Re-designing appropriately the data collection form as well as the software, if required, for which the services of an information systems expert will be engaged. One weakness of the AQUIS is the felt or perceived difficulty in filling up the data collection form. A well-trained enumerator would not face this difficulty; however, efforts must still be made to make it convenient for the enumerator. After all, if the bottleneck in the system is at the collection end, it is there that efforts at improving and facilitating the process should be concentrated. In any case, the existing form must necessarily be designed according to the objectives of the information system.
4. National training workshops for personnel of concerned centres and institutions that will be involved in the project will be conducted. NACA will not be able to field its own staff to collect all the information needed so that the collaboration of fisheries agencies in the countries will be sought for this purpose. However, it will organize training workshops for field personnel and participate in establishing procedures for data collection at the farm level.

A Unified Network Information Programme

The 5-year work programme for the Intergovernmental NACA has put emphasis on the collection of farm performance data to feed into both project planning and development and research on the improvement of farm management practices. Having a few but high priority farming systems to cover will, in itself, serve as a unifying factor. Nodal centres will be identified to take care of each of the farming systems which the programme will cover. This is a departure from the previous scheme in which several species, commodities and culture systems were covered by each centre. As a result, a lot of data were inputted but not enough for a meaningful analysis of individual culture systems. This new scheme should provide a focus to the information gathering effort and, obviously, service.

On another area, unifying the programme will involve the integration of the information system and development support communication component. The concept is not new, it is normally done within organizations: the information system is the main source of raw materials for the development support communication arm. Development projects usually have a built-in information system for monitoring and evaluation purposes. The idea of integrating the information system and development support communication component is to be able to precisely identify the problem areas that need information support.

Finally, unification of the network information programme means working out a scheme of sharing responsibilities and benefits. This is in keeping with the networking concept and the principle of technical cooperation among developing countries.

In the same spirit, the information programme of the intergovernmental NACA expects to work out collaborative arrangements with other national, regional and global systems. For this reason, activities of this nature are most welcome; each of us working in separate agencies and institutions but having similar, related or parallel objectives welcome this exchange of information so that the programmes we set out to do can be complementary and, even collaborative where feasible, rather than competitive or conflicting.