

# The International Center for Living Aquatic Resources Management (ICLARM): Its Role and Interests

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## RESUMEN

ICLARM es una institución científica internacional no lucrativa que fue organizada por la Fundación Rockefeller en 1975. Después de un período inicial en Hawaii, instaló su base principal en las Filipinas, en donde fue incorporada en 1977.

Actualmente, la Fundación Rockefeller y los Estados Unidos, a través de su Agencia para Desarrollo Internacional, facilitan los fondos esenciales. Para el sostén del Proyecto, éste se nutre de una variedad de fuentes.

El campo de interés principal de ICLARM es la acuicultura, pesca tradicional, desarrollo de recursos, administración y educación y entrenamiento. El Centro mantiene un pequeño núcleo de personal, el que es aumentado por becarios visitantes, internos y asesores.

Aun cuando el ICLARM ha concentrado la mayor parte de su trabajo en el Sureste Asiático, su interés es global. El Centro particularmente se interesaría en establecer relaciones con instituciones apropiadas en la región del Golfo de México y del Caribe, con objetivos a largo plazo para establecer nexos más formales y proyectos cooperativos en áreas problemáticas de mutuo interés.

## INTRODUCTION

ICLARM, the International Center for Living Aquatic Resources Management, is a relative newcomer to the small group of mission-oriented research organizations concerned with international fisheries. It was organized in 1975 and incorporated in 1977 in the Philippines where it maintains its headquarters.

The Rockefeller Foundation developed the concept leading to ICLARM, and remains its principal donor. The rationale behind the Rockefeller initiative was that there appeared to be a need in fisheries for an organization similar to the international agricultural centers which operate under the aegis of the Consultative Group on International Agricultural Research (CGIAR). It would be an organization that could conduct long-term coordinated research on the principal fisheries problems in the developing world.

ICLARM by its nature occupies a different niche from other fisheries research institutions. It is autonomous, it is non-governmental, it is non-profit, its interests are global. It draws its support from a variety of governmental and non-governmental sources. It is not constrained by political factors, and thus can undertake studies that might otherwise be impossible.

ICLARM is relatively small and intends to remain so, with its target a core staff of perhaps 12 highly competent scientists representing a variety of disciplines. It has at present no plans to build its own physical plant but rather to work in existing laboratories and field stations. In this respect, it differs from the agricultural centers.

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The research programs of interest to ICLARM are broad in their scope, multidisciplinary in their nature, and designed to help developing nations meet their nutritional, economic, and social requirements.

While ICLARM so far has concentrated its efforts in Southeast Asia and the Southwest Pacific, it is interested in establishing contacts and programs elsewhere in the world. It is involved in one program in the Middle East and is exploring other possibilities there and elsewhere. It would particularly like to establish relationships in the Gulf and Caribbean region.

#### ORIGIN AND DEVELOPMENT

In 1973, the Rockefeller Foundation convened a conference "to review worldwide and regional needs in aquaculture and fisheries development and to assist the RF organize a program of support" (Maclean, 1980). This led to ICLARM's establishment in January 1975 with headquarters in Honolulu, Hawaii, where it remained until 1977, essentially as a RF program operating under the University of Hawaii. This was a short-term arrangement, for the basic concept called for international support with the long range hope that ICLARM would become a member of the CGIAR. During this period, ICLARM presented its case for support to a variety of donors, including the U.S. Agency for International Development. It soon became apparent that U.S. support was a necessary first step toward obtaining significant support from other donors and that U.S. support would be contingent upon ICLARM's formal establishment as an entity with its headquarters in a developing nation.

In January 1977, ICLARM was incorporated in the Philippines as an independent institution, and in March of that year it established its headquarters in Makati, Metro Manila.

#### ORGANIZATION AND FUNDING

ICLARM is organized under the laws of the Philippines, where it enjoys tax-free status under the terms of a presidential decree. Its policy is set by a Board of Trustees, the membership of which is international, and implemented by the Director General (Dr. Ziad Shehadeh, Lebanon) with the assistance of his Deputy (Dr. Richard A. Neal, USA). A Program Advisory Committee (PAC) provides professional counsel to the Director General (Fig. 1). The PAC is made up of an international group of experts acting in their personal capacities and is limited to a maximum of twenty members. It held its second formal meeting in September 1980 under the chairmanship of Dr. Klaus Tiews, Federal Republic of Germany. The PAC is scheduled to meet biennially, with an executive committee convening in the off year. The DG can and does call on individual PAC members on an ad hoc basis.

The permanent staff now has nine members while four others hold fixed term appointments as post-doctoral fellows. Disciplines represented include biology, physiology, pathology, economics, population dynamics, aquaculture and sociology. There is in addition a staff affiliate in computer programming. A predoctoral fellow, research fellows and research interns all hold fixed-term appointments. The staff is recruited internationally, and now includes members from the UK, France, Australia, Philippines and Malaysia, as well as Lebanon and the USA. ICLARM makes extensive use of ad hoc consultants and has made two special purpose appointments (now expired) as research associates.

ORGANIZATIONAL CHART

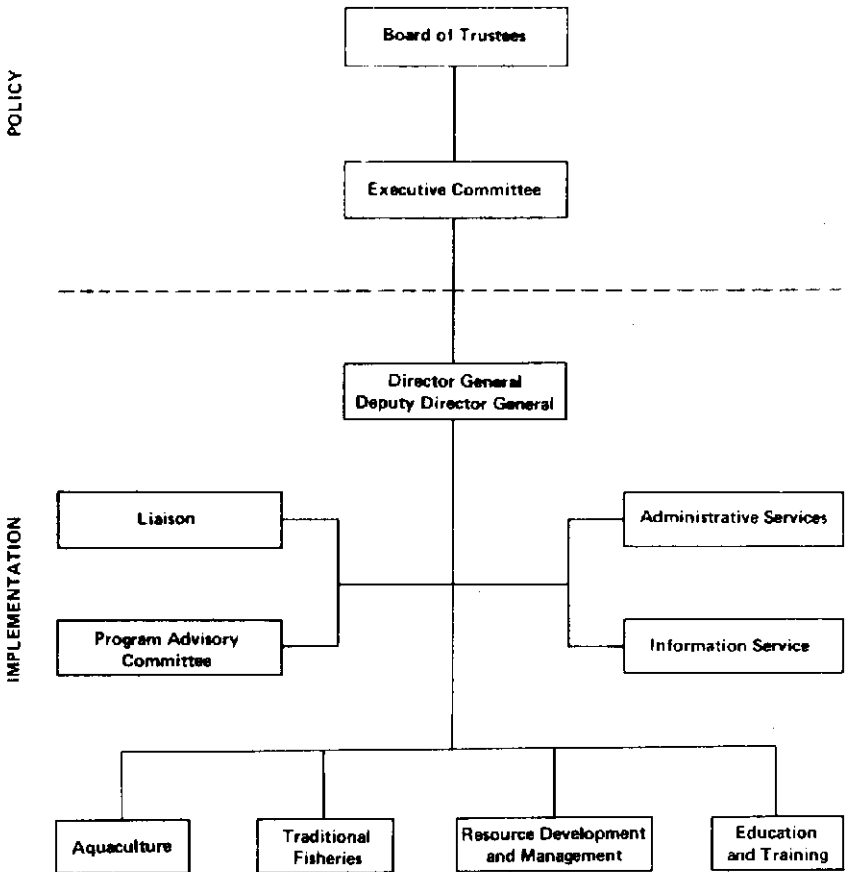


Figure 1. The organization of ICLARM.

ICLARM also recognizes that its success is dependent to no small degree on linkages, both formal and informal, with appropriate institutions and in undertaking cooperative projects. It has entered into nine formal arrangements with Southeast Asian organizations and academic institutions, and has less formal working relationships with a number of organizations in Asia, the Pacific basin, the USA and the Netherlands.

Originally, ICLARM was almost entirely dependent on the Rockefeller Foundation for financial support. Other donors and cooperators have provided some funds, but without Rockefeller the Center could not have survived. In 1979, USAID made a 3-year unrestricted grant in the amount of \$800,000, which made possible a core budget of \$1 million for 1980 compared with slightly over \$450,000 in

1977. In 1981 there will be first-time program support from West Germany, Australia, and the Asian Development Bank, permitting a realistic budget of about \$1.7 million. While this is not enough to permit filling the remaining permanent positions, it is sufficient to insure the Center's financial stability over the next few years. In the long term, ICLARM needs more unrestricted funds, which could come through affiliation with the CGIAR when and if that organization includes fisheries in its scope, or through additional unrestricted grants.

## THE RESEARCH PROGRAM

The program as presented to and approved by the Program Advisory Committee at its September 1980 meeting includes four principal elements: aquaculture, traditional fisheries, resource development and management, education and training. At the present time, the greatest emphasis is being given to aquaculture, both in terms of staff and budget. While aquaculture is likely to remain the largest component, ICLARM plans a balanced program among the four as rapidly as funds permit. The Center gives particularly high priority to filling a senior post in resource development and management, recognizing the magnitude of the global problem in the light of virtually universal zones of extended jurisdiction.

### Aquaculture

This program is made up of four principal units. The first, Controlled Reproduction and Nutrition, has a high priority but has been hampered by the lack of proper facilities. Work on the mass production of fry and on broodstock improvement is being conducted at Central Luzon State University (Philippines) under the terms of a cooperative agreement with CLSU. The staff is also involved with a USAID/New Jersey Marine Science Consortium project concerned with the reproduction of marine fishes of interest to Egypt and Israel.

A major project scheduled to start in 1981 falls under the second heading, Coastal Aquaculture. This project will be devoted largely to mollusc culture in Thailand. The Federal Republic of Germany is providing first year funds anticipated to be in excess of \$300,000. A project concerned with mullet raising techniques in Egypt is a possibility under U.S. auspices.

In the third unit, Integrated Farming, ICLARM has entered into an agreement with Central Luzon State University under which research is being carried out at CLSU designed to determine optimum waste loading and the most economic combination of species. Work on pig-fish polyculture systems is proving particularly fruitful, and ICLARM is considering linkages in Mexico and Kenya that involve further research on livestock-fish relationships.

Finally, ICLARM has several studies under way in the fourth program area, Economics and Development Trends. These include the production economics of animal-fish systems, catfish and milkfish. The staff is also studying the impact of agriculture on aquaculture in Israel and Taiwan.

The Center has sponsored or cosponsored a variety of workshops and seminars. An important workshop on aquaculture economics, cosponsored with Canada's International Development Research Center, is scheduled for 1981.

## Traditional Fisheries

In Southeast Asia, as in so much of the developing world, most of the stocks taken by small-scale fishermen are either overfished or close to that condition. The ICLARM approach is, therefore, not to attempt to increase catch efficiency but rather to explore means of increasing income in any of several ways such as increasing prices through better handling and marketing, increasing alternative income, and increasing fishing income through better management of the available resource.

The major project now being carried out is a multidisciplinary study of the traditional fisheries of San Miguel Bay, Philippines. The project is designed to analyze the social, economic and biological factors influencing the traditional fishermen of the bay and to measure such interrelationships as may exist. The project may well serve as a prototype for similar integrated studies that might be carried out elsewhere in the world.

ICLARM and the Asian Development Bank are cosponsoring a workshop in February 1981 that will explore alternative energy sources for use in fisheries, an extremely important matter for the traditional fisheries.

## Resource Development and Management

This extremely important subject has not received the attention it deserves because of staffing and funding problems. It has a high priority, and the Center hopes to recruit a senior scientist in the near future to head the unit. None-the-less the program has made considerable progress. Completed studies include a review of fisheries management and law of the sea in Southeast Asia and the Southwest Pacific that was followed by a workshop on LOS problems in Southeast Asia.

A major project on Tropical Stock Assessment is now under way, in the course of which the Center has developed linkages with a number of institutions throughout the world. With the financial support of the Australian Development Assistance Bureau, ICLARM and the Commonwealth Scientific and Industrial Research Organization are sponsoring a small workshop on the theory and management of tropical multispecies stocks. The workshop will be held in January 1981, and its recommendations will form the base for an action program. The project works closely with the San Miguel Bay study of traditional fisheries.

## Education and Training

Because of staff and budgetary constraints, ICLARM has not been able to develop programs in education and training to the degree desired. However these aspects are built into other programs whenever possible.

Activities include the research internships, use of host country counterparts, training workshops, preparation of manuals, development of university curricula, acting as thesis advisors, and providing some limited funds for thesis research.

## INFORMATION SERVICES

ICLARM emphasizes its information services. It has a growing library and invites exchanges. It has a publication unit which is producing documents ranging from scientific papers to administrative reports and a widely-distributed news letter. The unit has in mind instituting a special project designed to handle unconventional,

often ephemeral, literature. It is also considering means of responding to an expressed regional need for a fisheries forum that would provide a means of communication and publication for Southeast Asian fisheries scientists.

#### POSSIBILITIES FOR COLLABORATION

As I have noted earlier, ICLARM has in its brief career concentrated, for obvious geographic and fiscal reasons, on Southeast Asia. It has, however, a global charter and has done some work outside of Southeast Asia and has plans to do more. While its emphasis is sure to remain in Southeast Asia for the foreseeable future it does wish to establish contacts elsewhere.

At the present time, ICLARM has no working relationships in Latin America and the Caribbean, though there is a proposal being developed for ICLARM participation in an integrated farming project in Mexico. Beyond that, the Center is particularly interested in establishing connections with appropriate institutions in the Gulf and Caribbean region, with the long-range objective of setting up more formal linkages and cooperative projects in problem areas of mutual concern.

There are several possibilities for informal collaboration. Attendance of appropriate members of the ICLARM staff at meetings such as GCFI is one. Conversely, it may well be possible to arrange to have individuals from this region attend certain of the ICLARM conferences and workshops. Joint sponsorship by GCFI and ICLARM of conferences or workshops on topics having an interregional or global dimension is another avenue.

The main purpose in my presenting this paper was to make this group more aware of ICLARM and its role and to open the door to future collaboration on an institution-to-institution or scientist-to-scientist basis. We hope this will lead to fruitful relationships in the years to come.

#### REFERENCE

- Maclean, J.L. (ed).  
1980. ICLARM report 1977-1980. International Center for Living Aquatic Resources Management, Manila, Philippines. 168 pp.