

Marine Science Information: an International Commodity  
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## INSTITUTION BUILDING WITH DEVELOPMENT AID: THE ROLE OF IDRC

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### ABSTRACT

When information services are being established by countries and donor support is required, the donor likes to see evidence of cooperative activity rather than isolated work in an uncoordinated manner. In the field of information, the work of IDRC has been devoted to supporting international cooperative systems in conjunction with international organizations, for example, FAO's AGRIS and ASFIS systems. The problems of mandate, compatibility, standards, timing and long-term support all have a chance of being properly addressed within international systems and networks.

### INTRODUCTION

It is a great pleasure for me, on behalf of the International Development Research Centre (IDRC), to speak before you today at this seminar. The place in which we meet to discuss marine matters is indeed an appropriate one. It is the site of one of North America's earliest settlements and one of America's oldest cities and universities. This area has a great historic tradition, has played host to many great international events and meetings over the years and it is also the place chosen by the State of Virginia to locate a major marine research institution.

I am particularly grateful to VIMS and IAMSLIC for inviting me and my colleague here to speak for two reasons. First, because it is our firm belief that scientific knowledge is not only important for development, but it is also a perishable commodity, and as a result, knowledge often gets misplaced in the development process, so any organization such as IAMSLIC that seeks to increase the dissemination of knowledge deserves our attention. Secondly, IDRC's unique role as one of the few donor agencies in the world supporting development research also devotes a significant portion of its annual budget to information programmes in developing countries.

## BACKGROUND

First, let me give you all a better background. IDRC was founded in 1970 by an Act of the Parliament of Canada in response to the realization that much development research was needed if the developing countries were to obtain the skills necessary to follow their own priorities towards economic growth. In order for IDRC to be responsive to the priorities of developing countries, its policies are set by a Board of Governors comprising both prominent Canadians and persons from the developing countries themselves.

## AIMS

The Centre's aim, according to its Statutes, is to "initiate, encourage, support and conduct research into the problems of the developing regions of the world and into the means for applying and adopting scientific, technical and other knowledge to the economic and social advancement of these regions." It does this by providing help to scientists from developing countries and to institutions to help them carry out research on subjects felt to be important in their own national context.

IDRC is also a very unique institution not only in what it stands for but also in how it goes about its tasks. Our concern is not only to offer support to research but to do so in ways and means that will ensure that the level of competence of the researchers and institutions we support are increased. We look for ways of a practical and applied nature, focusing primarily on the poor and disadvantaged in society.

IDRC is charged by its Statute, not only with the task of fostering the quest for new knowledge, but also with the task of finding better mechanisms for the dissemination of existing knowledge. Each function is important. New ideas can easily be mislaid and ideas thereby prevented from achieving the desired results. Widely disseminated knowledge can speed up the overall processes of development, prevent duplication of effort and open up even newer paths on the scientific plane. This symbiotic process is one which IDRC has tried to foster, particularly in the information field, because it believes that, in order to function most effectively, scientists and information experts need to closely collaborate to achieve a good transfer of technologies.

## ORGANIZATION

IDRC is divided up into five main programme divisions, of which Information Sciences is one. The other four are Agriculture, Food and Nutrition Sciences, Health Sciences, Social Sciences and Communications. Like other Divisions of IDRC, the Information Sciences Division works primarily by supporting "projects" each representing a cash grant to support an activity in a recipient institution. Altogether in developing countries, the Information Sciences Division has now supported over 116 such projects totalling over \$22.2 million in grants. However, in recent

years, requests have not been for money, but for professional advice, training, or the acquisition of computer software produced at IDRC.

By their very nature, large-scale information activities are possible only where cooperation exists among a number of institutions. Because information is also being generated and consumed in a large part by governments, cooperation is most sought by governments. In turn, inter-governmental cooperation can best be organized by specialized agencies such as is found in the United Nations family as can be illustrated by the International Information System for the Agricultural Sciences and Technology (AGRIS) and the Aquatic Sciences and Fisheries Information Service (ASFIS) where IDRC has worked closely with FAO in the establishment of services. The building of international cooperative information systems entails much effort and training and makes sense only when the "mission" is broadly defined, e.g., "industry" or "agriculture." The system can then provide an inventory of relevant information currently available. But often, what individual scientists and technologists need most is not copies of original documents, but repackaged information, tailored to their own specific needs. The quality of such information can only be guaranteed if the scientists and librarians work closely and both are experts on the subject matter. IDRC has sought to sponsor the relationship by supporting specialized information analysis centres in places of excellence in a given field. A good example of this is the various "technologies" at the Asian Institute of Technology in Thailand, and in the area of marine science at the Aquaculture Department of the Southeast Asian Fisheries Development Centre (SEAFDEC) at Iloilo, Philippines, where a specialized information centre operates for brackish water species of fish.

Up to the present time, IDRC's involvement in the sphere of marine information has, however, been modest. Our philosophy has been based on the fact that, in developing countries, the means for science and technology are small-scale enterprises, artisanal fisheries based on locally available raw materials for local markets. The basic need, therefore, has been for extension and advisory services, training and exchange of technical know-how. It was because of this that, in 1972, quite early in IDRC's existence, we decided to help national institutions in Southeast Asia implant greater access to technical advice to small-scale fisheries. This was the first project in fisheries extension - Southeast Asian Fisheries Extension materials (SAFIS), which has had a great deal of success and has been held as a model for mutual exchange of information at the basic level. More recently, we have been able to assist the Indonesian Government establish a similar project. Other work we have supported has been connected to sources of information and bibliographic control for special subject areas. For instance, we have supported the Intergovernmental Oceanographic Commission (IOC) compile a manual of sources of information on Marine Science which will shortly be available.

Developing countries also need help in some of the more advanced management techniques in such areas as fish stocks, enterprise control,

port and fleet management and surveillance systems. Canada has developed specific technologies in this area and has been willing to share its knowledge with other countries with substantial interests in off-shore conservation issues for both living and non-living aquatic resources. For instance, IDRC has recently supported ASEAN marine departments observe the Canadian Monitoring, Control and Surveillance (MCS) mechanism for its Exclusive Economic Zones (EEZ).

IDRC's hesitancy to jump in feet first, as it were, and develop a major program in marine information, including fisheries information, is because we feel that attempting to compete at the frontiers of knowledge in marine science is too costly and likely to be a hit and miss affair. It is important, therefore, to set clear priorities and an attainable set of goals in line with developing country needs. Examples of which would include the need to:

- spread knowledge of basic and applied marine research;
- disseminate information on innovations applicable to developing countries;
- diffuse new techniques;
- support the application of new methods and standards;
- retrofitting existing technologies;
- extend fisheries know-how on activities with visible pay-offs;
- help developing countries obtain the skills of selected, imported technologies, appropriate to their needs; and
- help address the issue of lack of extension agents by training and exchange.

IDRC is a donor agency which, each year, receives many requests from the developing countries and international organizations for assistance. With the very limited funds available, it would be impossible to respond to each request. We have to be selective. We tend to base our judgments on one or two criteria which may be worth setting down here.

A major consideration is to foster self-reliance in accordance with the plans and priorities of the countries involved. Because funds for development are scarce in the countries themselves, there will be many competing projects. It is, therefore, essential for IDRC to know that a particular project will have the full backing of the national planning authority responsible and will, therefore, not be fostering competing interests within the various countries. We need to know that the institution we are dealing with is the most appropriate one, that the work will not duplicate what is being done elsewhere and that the products

will be available to all users. The question of a mandate is important. We need to know that the work proposed is clearly designated by appropriate authorities and will serve a recognized body of users.

In most cases, the international co-operative systems or network approach will be most beneficial because users require information not only from national sources but also from international sources relevant to their needs. Work sharing by a group in a network means that the territorial formula implicit in such systems avoids duplication and ensures that everyone shares the fruits of one's labour.

It is, therefore, easy to see that it would be impractical for a donor to support the same initiatives in several countries, mutual sharing of responsibilities is more cost-effective, and in the final analysis, a much more comprehensive service can evolve.

Another important consideration is that of compatibility. In order to merge data bases efficiently and share information products, agreed rules or bibliographic descriptions and methodology must be accepted, so that there will be no arbitrary changes in classifications except by agreement by parties.

Finally, the subject scope of an information service should be tightly defined. If it is not, users will have difficulty knowing what is exactly covered by the service. A service that is not tightly defined costs much more since inputters will not know what the parameters are, and the system will grow beyond reasonable limits. It will lack credible coverage and operate ineffectively.

## CONCLUSION

It is not my role to come here today to lecture you all on what we think your information priorities are in the field of marine science but rather to tell you where our general interests lie. I am here to listen to, learn and gather ideas that will be of use in helping developing countries gain greater access to knowledge of the oceans. The theme of your meeting is, therefore, most appropriate and I am sure, by the time I leave, you will have given me much food for thought and positive indications where our present programme might impact on the marine community in developing countries. I, therefore, thank IAMSLIC for so graciously extending to me the invitation to speak to you today and for providing me with an opportunity to listen to all your issues.