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Marine Information Management: An Informal Report of the Meeting of the IOC Ad Hoc Consultation of Experts on Marine Information Management

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ABSTRACT

This paper summarizes the report prepared by the Ad Hoc Consultation of Experts on Marine Information Management held at Enghien-les-Bains, France, October 1987. The Intergovernmental Oceanographic Commission (IOC) promotes Aquatic Sciences and Fisheries Information System (ASFIS) through its regional bodies and many informal contacts in the marine science community. During the past years, initial steps have been taken toward the development of a strategy for the marine information management endeavors of IOC. This report defines and discusses the goals and objectives of the strategic plan which is designed to strengthen ASFIS and improve the availability of marine scientific and technological information to all IOC member states.

BACKGROUND

The urgent issue of improving and updating current marine information management systems was undertaken by an ad hoc Consultation of Experts on Marine Information Management during a special meeting held in October 1987 at Enghienles-Bains, France.

The Consultation was appointed by the Intergovernmental Oceanographic Commission (IOC) of UNESCO and mandated with studying ways to form a cohesive framework into which all advances in marine information management can be fitted. Such a framework gives a direct strategy for IOC to follow, provides leadership to other concerned organizations, and reinforces collaboration with funding agencies.

The Consultation's mandate was defined by IOC, which

1. Noted the importance of reinforcing collaboration and coordination among all organizations active in marine information science.
2. Stated the need for a clear strategy for marine information management, especially in establishing national and regional marine information networks.
3. Decided an information management strategy should include the strengthening of the Aquatic Sciences and Fisheries Information System (ASFIS) system in order to improve availability of information and exploit current information technology, thus ensuring effective, economic, and flexible production of the ASFIS registers. The Consultation was chaired by Dr. J. Caponio, Department of Commerce, USA. Other expert participants included Mr. E. F. Akyuz, FAO, Italy; Dr. M. Almada de Ascencio, Universidad Nacional Autonoma de Mexico; Dr. A. Hurwitz, USA; and Mr. A. Varley, Plymouth Marine Laboratory, United Kingdom.

Representatives of the ASFIS cosponsors were Mr. R. R. Freeman of the FAO, and Mr. R. Gruszka of the United Nations. Representing UNESCO Secretariat, IOC, were Dr. M. Ruivo, Ms. N. Philippon-Tulloch, and Mr. T. Sankey.

Guiding Principles for A Strategy in Marine Information Management

The guiding principles the Consultation considers fundamental to its recommended strategies are listed below.

1. Marine information is a common resource, indispensable for understanding the ocean and for the wise exploitation and management of its resources.
2. Marine information is a prerequisite to development of national and regional infrastructures, and contributes to the transfer of knowledge and technology between developing and developed countries.
3. An international marine information system should strive to become an interactive and cooperative network of information centers, each of which is self-sufficient at the national level. The FAO's ASFIS forms the basis for such a system.
4. Management of a cooperative network, based on the concept of confederation, needs to be coordinated at the intergovernmental level as well as within the United Nations system, to ensure cohesion and coherency.
5. Member states should make a firm commitment to a national policy in marine information management, based on the framework, services, and products of the FAO-IOC-UN ASFIS. Such commitment is essential for effectively translating into practice the provisions of the UN Convention on the Law of the Sea.
6. Additional resources, both from the budgets of the international cosponsoring organizations of ASFIS and through extra-budgetary sources, are essential to attain an operational, productive, international marine information network. To accomplish this, it is of paramount importance that concerned organizations take concerted action to expand currently scarce funds.

The Strategy

The Consultation prepared a strategy for improving marine information and the actions required for its implementation that involved making certain recommendations. As a basis for these recommendations, the Consultation used a draft functional blueprint of a marine information system developed from a conceptual view of ASFIS as it currently exists.

For each of seven major components, the objective and activities were defined. The Consultation then made a separate recommendation for each functional component, indicating clearly the organization or organizations to which it is addressed.

THE RECOMMENDATIONS

Recommendation 1 - Bibliographic Database

While the ASFA database is able to meet most user needs for worldwide literature, it is currently encountering serious difficulties due to an increasing backlog and inadequate coverage, as well as insufficient access to the database. The Consultation recommended that

- A. The ASFA Advisory Board explore alternative and additional sources of funds in order to process the current backlog, keep up with continuing entries, and increase the coverage of ASFA.

B. ASFIS cosponsors assist member states, particularly developing countries, in strengthening existing marine information centers.

C. ASFIS cosponsors, together with UNESCO's Division of Marine Science and PGI, seek ways and means to assist member states in developing national marine information infrastructures.

D. ASFIS support strategies to increase access to binational and international aid programs.

E. IOC/UNESCO prepare and distribute guidelines on how to establish and run a marine information center.

Recommendation 2 - Document Delivery and Availability

ASFIS should add to its current identification, indexing, and abstracting efforts the task of ensuring the actual delivery of full-text documents. To do this, effectively designed and well-integrated document delivery systems at national and regional levels are essential. The Consultation recommended that

A. IOC prepare guidelines on document delivery for inclusion with other guidelines on how to establish and run a marine information center (See Recommendation 1, point E).

B. The ASFIS cosponsors undertake two feasibility studies: one identifying core literature and key papers in marine sciences as basic holdings for marine information centers, and another on storing full-text core monographs on compact disc for distribution to centers.

C. ASFIS cosponsors and UNESCO encourage nations to recognize the importance of developing and distributing information products and services on a national, regional, and global level, and to include such recognition as part of their national policy.

D. ASFIS cosponsors and UNESCO promote and assist in the further development of national (and regional where required) union catalogs and systems of interlibrary lending.

Recommendation 3 - Information Registers

The Consultation noted that currently available information on institutions, experts, meetings, and research vessels is fragmented, incomplete, and out of date. In particular, the *International Directory of Marine Scientists* (IDMS) urgently needs updating and revision. Careful definition of the purposes it serves is a prerequisite to such work. Further, the Consultation felt there is now a special need for a register of marine librarians and information specialists as an adjunct to the IDMS. The Consultation recommended that

A. ASFIS cosponsors develop plans to coordinate, produce, and maintain registers of institutions, meetings, and research vessels.

B. ASFIS cosponsors discuss, analyze, and agree on the purposes of IDMS and give a high priority to, planning, updating, and printing the Directory.

C. ASFIS cosponsors include preparation of registers as one of the functions of each national or regional center.

D. IOC takes the lead in compiling a register of marine librarians and information specialists.

Recommendation 4 - Information Tools

The Consultation discussed the objectives of the information tools, reviewed the state of presently available tools, identified deficiencies, and considered the inadequacy of the funding arrangements. The Consultation recommended that

A. FAO take the initiative in updating existing tools and developing new tools to complement new technologies.

B. FAO obtain adequate funding or identify publishers to undertake printing and distribution of information tools to user communities and trainees, where possible free or at minimum prices.

C. FAO lead in including relevant information tools in on-line database systems and make them available in machine-readable form for use in the micro-computer systems used by marine information systems.

D. IOC take the lead in preparing new tools for proper use of the CDS-ISIS package in compiling and maintaining bibliographic databases and information registers both at the national and regional levels.

Recommendation 5 - Training

The Consultation focused on the urgent need for an integrated training program, and drew attention to UNESCO's mandate to assist member states in meeting their training and education needs. Any recommendations should be addressed through IOC to UNESCO for consideration. The Consultation cited TEMA's long experience in identifying training and education requirements of member states as indispensable.

The Consultation recommended that UNESCO, in collaboration with the ASFIS cosponsors and with the assistance of donor agencies, be requested to

A. Produce guidelines on how to conduct courses and workshops for both marine information professionals and the users of marine information.

B. Provide technical training for national centers that prepare, within the ASFIS framework, marine information products.

C. Conduct courses and workshops for information professional trainees and users of information, including courses on the application of marine information to meet specific types of user needs.

D. Promote training of information professionals from centers in developing countries.

E. Encourage universities and higher education institutions to include courses on how to use information in ocean science, fisheries, and related courses.

Recommendation 6 - Awareness Services

While users are satisfied with the major awareness services offered through ASFIS, there is a need to ensure continued improvement in these services. The Consultation recommended that

A. UN/OALOS be asked to consider publishing a new awareness service on *Marine and Coastal Technology Contents Tables*.

B. UNESCO be asked to consider increasing the level of resources it offers to the publication of *Marine Science Contents Tables*.

C. IOC investigate use of electronic mail to disseminate information about meetings.

D. The ASFIS cosponsors consider increasing general public awareness of the system by

i. using special inserts about ASFIS to reach additional user communities,

ii. referring to ASFIS in their publications and documents, at least to the fact that these are abstracted within ASFA, the bibliographic component of ASFIS,

- iii. providing, regularly, information about the system for publications such as the *International Marine Science (IMS) Newsletter* to maintain high awareness within the marine science community.

Recommendation 7 - Management Component

A management structure to provide direction and continuity for ASFIS in the future is needed. Such a structure will help expand ASFIS and ensure its stable development.

The Consultation agreed the necessary components of a management approach should establish a policy on who is eligible to participate in ASFIS and what the conditions of eligibility are, identify significant needs for marine information throughout the world, establish operating policies and make decisions (keeping user needs and existing products and services continuously under review), and include a secretariat to implement necessary actions.

While these points are useful as guidelines, the Consultation felt that a new and innovative approach is needed and recommended:

A. As cosponsors of the ASFIS, the FAO, IOC, and the UN meet informally to consider, as an urgent matter, proposals for a new management approach.

B. A new management approach, formed through a confederation based on the "profiles" or missions of the ASFIS cosponsors, be considered.

C. Appropriate consideration be given to the need for adequate secretariat servicing, interface with regional and national structures, and a strong coordinating mechanism to provide policy guidance, review user needs, and make decisions on operational plans, including the mobilization of required resources, both financial and staff.

D. Strong technical advice should be sought periodically from a group of experts that would report jointly to the ASFIS cosponsors.

A Confederation Approach to ASFIS Management

The Confederation Management approach is based on the missions of ASFIS cosponsors. In terms of present cosponsors, this would mean that IOC would be responsible for the oceanographic sector of ASFIS, FAO for fisheries, and the UN for ocean affairs and the Law of the Sea. The role of other potential cosponsors, such as UNESCO or the United Nations Environmental Program (UNEP), would need to be taken into account.

A key aspect of this approach is the concept that, unlike other international information systems, ASFIS should permit more than one institution in any country to be eligible to participate in ASFIS - conceivably one for each of the ASFIS cosponsoring agencies.

In addition to these points and the points made in Recommendation 7, above, the confederation approach includes other unique aspects.

One would be the assignment of primary responsibility for the various products and services of ASFIS to separate secretariats at the various international organizations cosponsoring ASFIS. The confederation approach would also take advantage of existing regional structures that may be used as channels for communication needs for information services from countries throughout the world. Additionally, ASFIS cosponsors would organize meetings to establish a consensus between their constituent regional communities on how to proceed in a particular region when resources are already available.

In summation, in order for a confederation to succeed, a strong coordinating mechanism will be needed to provide policy guidance, review user needs, and make decisions on operational plans. This would include the monitoring of operational registers and other ASFIS products and mobilization of required resources, both financial and staff.

The Consultation envisaged that this would take place through two means:

1. Major policies would be established by representatives of all ASFIS centers convened occasionally in intergovernmental meetings at the joint invitation of the sponsor agencies, and

2. An executive board comprised of a representative from each international organization cosponsoring ASFIS would meet more frequently in order to provide continuity and timely decision making. To supplement this, strong technical advice would be sought periodically from a group of experts reporting jointly to ASFIS cosponsors.

NOTE: A copy of the full, formal report of the Consultation is available from the chairman. Contact:

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