Networking Environmental and Sanitation Information : REPIDISCA at the forefront

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Networking Environmental and Sanitation Information: REPIDISCA at the forefront

The Pan American Information Network on Environmental Health (REPIDISCA) has achieved hard-won results in twenty-four countries in Latin America and the Caribbean; however, a lot of effort and dedication are still needed to encourage users to make the use of information a regular part of their professional lives.

Marta Miyashiro

A Colombian engineer seeking the optimal design to remove pathogens in stabilization ponds obtains the latest information on this topic from Brazil, Chile, Mexico, Peru and Ecuador. A researcher in Argentina, trying to minimize hazardous chemicals in the leather and tanning industries, receives relevant documents, not only from his own region, but also from others. A policy maker keen to encourage private sector participation in water and sanitation utilities analyzes the privatization experience in reports from Buenos Aires, Caracas, and Paris. How does this happen?

HOW REPIDISCA OPERATES

The Pan American Information Network on Environmental Health (Red Panamericana de Información en Salud Ambiental: REPIDISCA), serves a broad range of users through a network of 347 Cooperating Centres in twenty-four Latin American and Caribbean countries.

Asked what he considered to be the major asset of REPIDISCA, a user replied that the most noticeable benefit he had received from the Network was access to information that otherwise would have been almost impossible to obtain. The Cooperating Centres help to make this possible by collecting and processing environmental and sanitation information originating both within their organizations and from outside them. These records feed the REPIDISCA database, which in January 1994 held 75,000 bibliographic records and increases at a rate of some 10,000 records a year.

The database contains mainly references to non-conventional documents of restricted circulation, such as research and conference papers, theses, project and technical reports, standards, legislation, computer programs and videos, either produced in Latin America and the Caribbean or dealing with the region. The international literature is covered by REPIDISCA's parent organization, the Pan American Center for Sanitary Engineering and Environmental Sciences (Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente: CEPIS),[1] which selects books and articles scanned from international journals.

The subject scope of REPIDISCA covers the areas of environmental health; environmental and sanitary engineering; water resources and pollution; water supply; wastewater; municipal and hazardous wastes; soil and air pollution; occupational health and industrial safety.

HOW REPIDISCA IS ORGANIZED

REPIDISCA is based on the concept of mutual cooperation. The 347 Cooperating Centres committed to this regional endeavour are aware that through network participation they increase their ability to serve more clients, thus achieving economies in their operations.

Established by CEPIS with financial support from the International Development Research Centre (IDRC), REPIDISCA began full operation in 1982. Since then, expanding and improving information products and services by exploring new strategies to reach users, new ways of collaboration and new information technologies, have become its trademark.

The system is decentralized; in every country there is a National Coordinating Centre, while CEPIS plays the regional coordinating role and consolidates the information provided by the Cooperating Centres in several databases. At present, a grant from the German Technical Cooperation Agency (Deutsche Gesellschaft für Technische Zusammenarbeit: GTZ), supports some REPIDISCA activities.

WHAT REPIDISCA OFFERS

Services

The wealth of information accumulated by REPIDISCA enables the development of products and services to better meet the needs of its users at all levels.

The bibliographic search service is the one in greatest demand; the CEPIS library responds to an average of 150 requests from different countries every month. It produces a list of relevant documents in reply to an information request on a specific subject.

Document delivery is also offered at low cost; an average of 20,000 photocopied pages are provided monthly. Other services available to all users include training in documentary and computerized techniques for handling information, advice on information centre organization, referral service and contact with international information systems.

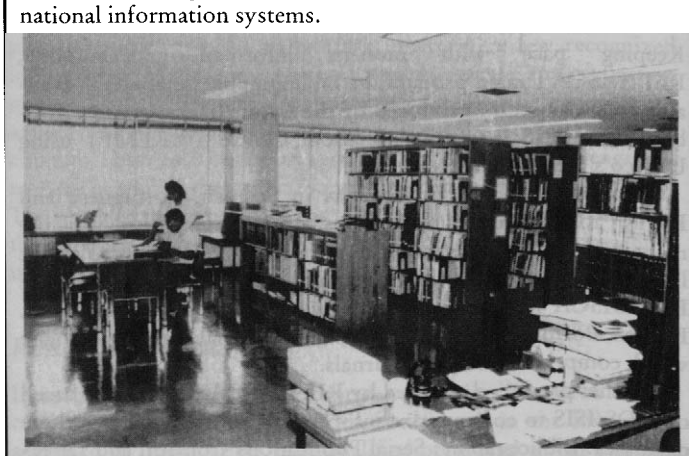

Figure 1. The CEPIS Library.

REPIDISCA IN NUMBERS[1]

N°	Country Member	Active CCs[2]	Potential CCs	Total	CD-ROMs[3]	Data Contribution[4]
1	Argentina	15	28	43	18	1,365
2	Barbados	1	–	1	2	1
3	Bolivia	15	15	30	8	217
4	Brazil	42	61	103	98	19,500
5	Colombia	30	31	61	14	2,678
6	Costa Rica	4	12	16	8	627
7	Cuba	35	18	53	2	2,374
8	Chile	24	9	33	16	2,387
9	Dominican Republic	7	15	22	3	88
10	Ecuador	24	40	64	3	1,463
11	El Salvador	12	10	22	2	146
12	Guatemala	3	8	11	6	227
13	Honduras	8	8	16	5	259
14	Jamaica	–	2	2	4	–
15	Mexico	18	12	30	18	12,752
16	Nicaragua	17	10	27	3	833
17	Panama	15	6	21	3	139
18	Paraguay	17	14	31	5	89
19	Peru	28	32	60	9	1,457
20	Puerto Rico	10	14	24	1	265
21	Saint Lucia	1	–	1	1	4
22	Trinidad & Tobago	–	2	2	4	101
23	Uruguay	3	22	25	6	63
24	Venezuela	18	21	39	9	824
	CEPIS					27,141
	TOTAL:	347	390	737	259	75,000

1. Data from September 1993
2. CC = Cooperating Centre
3. Cooperating Centres with CD-ROM
4. Records sent by the Cooperating Centres.

Products

Keeping pace with modern information technology, REPIDISCA's main product, its bibliographic database, is available on a CD-ROM produced by the Latin American and Caribbean Health Sciences Information Centre (BIREME) using Unesco's CDS/ISIS software.[2]

The CD-ROM has instructions in Spanish, Portuguese and English for the installation, menus, prompts and display of the records; it is issued every four months to provide access to recent literature. Besides the bibliographic database, it contains the REPIDISCA Thesaurus (3,000 keywords translated into Spanish, English, Portuguese and German), and the Serial Union Catalogue which comprises about 900 journals.

Another product developed by REPIDISCA is a package based on CDS/ISIS to computerize information units. It contains three databases: Bibliographic; Serial Publications Control; and Directory. It is already prepared for the production of indexes, catalogues, loan cards, inventories, labels, and for information exchange. All facilities included are explained in a step-by-step manual available in Spanish, Portuguese and English. This user-friendly package has become popular since no advanced knowledge on CDS/ISIS is required to operate the system. A new version for Local Area Networks (LANs) is under experimentation.

Publications

REPIDISCA publishes *REPINDEX* quarterly; each issue is dedicated to a specialized topic that responds to the demands of users, reflects critical situations the region is facing, or represents an emergent technology. In addition to its bibliographic indexes, the full texts of documents considered as basic reference tools in every specific subject are included.

The *Technical Dissemination Sheets* is also a quarterly publication; it presents technological advances, new managerial strategies

and ongoing research activities. Also, REPIDISCA has recorded its experience and methodology in several manuals, which are available to those who want to implement a computerized information system [see box].

REPIDISCA MANUALS

Directorio de Centros Cooperantes de la REPIDISCA. 1990. 134 p.

Guidelines for the use of REPIDISCA data base in PAHO/CD-ROM. 1991. 39 p.

REPIDISCA automatization manual using CDS/ISIS (version 3). 1991. 161 p.

Manual of REPIDISCA bibliographic data base. 1991. 37 p.

Thesaurus of sanitary engineering and environmental sciences. 1991. 310 p.

Union serial catalogue. 1990. 237 p.

Vocabulary on sanitary engineering and environmental sciences in Spanish, Portuguese and English. 1990. 108 p.

REPIDISCA SERIALS

NEWS (available only by e-mail)

REPINDEX (quarterly)

Technical Dissemination Sheets (quarterly)

Further information on REPIDISCA activities and publications is available from: Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS), P.O. Box 4337, Lima 100, Peru. Tel: +51 (14) 371077. Fax: +51 (14) 378289. E-mail (Internet) cepis@cepis.pe.

E-mail Access

Access to the REPIDISCA information bank can be made by electronic mail.[3] Requests for bibliographic searches, as well as REPIDISCA publications such as *REPINDEX, Technical Dissemination Sheets* and *CEPIS News* are also available through this means.

REPIDISCA'S CONTRIBUTION

In accomplishing its objectives, REPIDISCA's contribution to, and impact on, the information sector of the Latin American and Caribbean region has been significant. It has helped to boost the establishment of new specialized information centres and the setting up of national networks, and has generally increased the dissemination and use of information. Professionals, students and technicians working in the environment and sanitation sector know that they can turn to REPIDISCA when they need information.

The infrastructure has also been reinforced; about twenty microfiche reader-printers, eight CD-ROM readers, fifteen personal computer-printers, photocopiers and partial collections have been provided to REPIDISCA Cooperating Centres with support from PAHO, IDRC and GTZ.

Training has been a decisive factor, not only to standardize data input, but also to sharpen awareness towards information work and to create a sense of belonging to the network. Through national workshops, 1,364 information workers have been trained in the REPIDISCA methodology and information handling.

To ease the exchange of photocopies and services, REPIDISCA coupons have been issued as a means of payment; these are used by individual users and Cooperating Centres, among whom they circulate like money. The coupons have not only proved to be very convenient, but also provide a symbolic recompense for the data every centre sends to CEPIS. This payment facility, as well as the REPIDISCA methodology, have set an example that any other information system can apply; manuals and procedures regarding REPIDISCA's operations are available upon request.

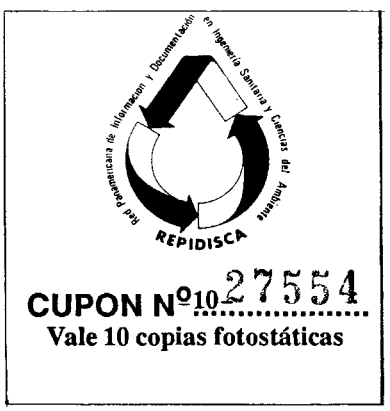

Figure 2. The REPIDISCA Coupon.

PROBLEMS FACED

Identifying and Encouraging Participating Institutions

Bearing in mind the leading role which the National Coordinating Centres have to play, their selection was crucial. It was necessary to attract strong and relevant institutions to support this regional project, but during the early 1980s, there were few recognized information centres in the environment, water and sanitation sector. Thus, REPIDISCA's most critical task was to appoint the appropriate National Coordinating Centre in every member country. After each centre was established, the major challenge was to keep it and all the other cooperating centres actively involved. The result of this experience has been positive, and in general terms the network has helped to mature the institutional development of its Cooperating Centres.

Resource problems

In many of the cooperating centres, the ubiquitous problem, of course, is lack of resources. This is reflected in the low status accorded to information, non-qualified personnel, small budgets, poor infrastructure and equipment, out-of-date collection, low

institutional profile of the information unit, and less than expected performance. The varying levels of technological implementation among Cooperating Centres constitute another constraint. An overly optimistic view might lead one to assume that participation in the network could overcome these problems, but this is not the case. Nevertheless, REPIDISCA has enhanced staff development through its training programme and has increased the capacity of the Cooperating Centres by improving their collections and equipment.

Geographical Distance

The presence of REPIDISCA in twenty-four Latin American countries thrusts upon CEPIS a major responsibility to integrate and unify through the network a complex area plagued by hard realities. The building up of a shared interest in working together demands personal and institutional willingness to cooperate, which implies close communication and enthusiasm at different levels. It should be coupled with an extensive mobilization of human and financial resources, and this is not always possible. However, the national training workshops, the technical missions of the REPIDISCA headquarters' staff, the regional coordinating meetings, and the continued communication among centres, mitigate the effects of being far apart. The regional meetings certainly influence cohesion and ensure the actual participation of member countries, thus avoiding top-down decisions.

LESSONS LEARNED FROM NETWORKING

There is no troubleshooter's guide for all networks; however, REPIDISCA has learned some lessons which are worth sharing with other colleagues.

Commitment to the network by an individual responsible information worker alone is not enough. It is necessary to get institutional involvement at all levels to strengthen the potential of the information unit, including its opportunities to expand and relate to other institutions. When only one of these conditions is present, the unit will not be able to participate in the network for very long.

Setting targets and ensuring consistent follow-up increase efficiency. When people feel they are accomplishing objectives, they feel motivated. On the other hand, getting in touch with key people in the Cooperating Centres and keeping them informed about the advancement of the network is important to consolidate mutual support; if communication flow is impaired, they may feel either that they do not belong to the network or that they are being relegated to the sidelines, and no effort will be made to further the network. Besides direct communication, a newsletter is a resourceful means to provide a forum.

PROBLEMS OF NETWORKING

One the main problems encountered with regard to organizing information provision in the [water and sanitation] sector is the way that responsibility for it is scattered among several institutions, or departments within institutions. Often the only mechanism for coordinating information provision has been one created specifically for managing a technical assistance project for an information system or network. Such mechanisms are rarely appropriate for managing information provision in the long term, and project proposals tend to neglect the need to establish permanent organizational structures for information management which will enable the activity to be carried on effectively after the end of the project.

While members of most of the networks studied* had a positive attitude towards cooperating with each other and with the network management, they were often not clear as to exactly what this should involve, and unaware that, to obtain the benefits of participating in the network, they must also contribute to its activities. Many network participants were not really able to participate effectively in this way, and most of the networks studied needed to formulate clear criteria for membership which would distinguish between institutions which could participate actively and those which would only be able to adopt a passive role and simply make use of the available facilities and services without being able to contribute to improving them.

One way to avoid the problems associated with establishing national focal points – though it may bring problems of its own – is for projects to be designed to support individual network member institutions in ways which are appropriate to their capacity and their willingness to contribute to networking activities. Thus, for example, technical advice on setting up and maintaining a database might be offered to one institution, while another may be helped to develop training courses and a third to produce an inventory of information sources – all for the benefit of the network as a whole. Such an approach has already proved its effectiveness in some countries, and seems likely to create better prospects for success while minimizing the consequences of failure.

The management of an information network must be participatory and democratic if the network is to function effectively and if all members are to be able to contribute to its planning, development and operation.

[Extract from: Parker, J. Stephen. *Information management in the water and sanitation sector: lessons learned from field assignments in Africa and Asia*. The Hague, IRC International Water and Sanitation Centre, 1992.]

* The systems studied in the field assignments described in this publication were: the Environmental Systems Information Network (ENSICNET) based at the Asian Institute of Technology, Bangkok, Thailand; the International Training Network for Water and Waste Management – Philippines (ITN-Philippines); the MAJIDOC national water and sanitation information network, Tanzania; and the Water and Sanitation Information Network (WASIN), in Indonesia.

Commitment and a cooperative spirit are fundamental to working on a participatory basis; special care should be taken to build initiatives from the bottom up, because the perception that decisions are being imposed could cause rejection among members.

No success lasts forever, and any training programme, marketing strategy or campaign to capture documentation should be systematically repeated, reviewed and updated. Also, innovative approaches are always welcome and could be implemented on a trial basis; REPIDISCA coupons are a good example.

Means to measure efficiency and evaluation criteria should be developed to obtain feedback to improve competence.

CD-ROM is a high pay-off alternative at decreasing cost. It represents a sound solution to the old problem of information exchange and data sharing. Similarly, electronic mail has proved to be a fast, reliable and inexpensive communication channel and a new means of accessing bibliographical databases. Both instruments encourage the spread of multimedia and full texts, facilitating document delivery dramatically.

ACHIEVEMENTS AND PROSPECTS

Undoubtedly REPIDISCA has achieved hard-won results; however, the work done so far has only scratched the surface of a complex reality. A lot of effort and dedication are still required to achieve the aim of incorporating the use of information as a regular pattern in the professional behaviour of potential users. On the other hand, creative strategies involving all Cooperating Centres are needed to maximize the impact and leverage of limited resources.

To meet the challenge of the current decade, and to keep abreast of information technology, REPIDISCA expects that all Cooperating Centres should: be able to interchange information among themselves and with other related networks through electronic means; have online access to databases using electronic networks; develop full text storage in digital form; and create factual databases.

To accomplish these long-term objectives with scarce resources, REPIDISCA must move upstream and work closely with country members to become more efficient, to deliver a quality product and to continue its unfailing contribution to the environment and sanitation sector.

Notes

1. CEPIS is the regional centre for environmental technology of the Pan American Health Organization (PAHO), World Health Organization Regional Office for the Americas.
2. The cost of the PAHO CD-ROM subscription is USD 150 for Latin America and the Caribbean and USD 500 for other countries.
3. Send a message to CEPIS server (listserv@ cepi.pre), Type 'INDEX' after 'Message' and you will receive a list of all files available, plus description and length.

Select Bibliography

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Abstract

Contribution to a special issue on information in the water and sanitation sector. Reviews the experience of the Pan American Information Network on Environmental Health (Red Panamericana de Información en Salud Ambiental: REPIDISCA), a regional information network on environment and sanitation in the Latin American and Caribbean Region. REPIDISCA was set up in 1982 by the Pan American Center for Sanitary Engineering and Environmental Sciences (Centro Panamericano de Ingeniería Sanitaria y Ciencias del Ambiente: CEPIS). 347 Cooperating Centres in twenty-four countries participate in the network. Describes the operations, organization, services, products and publications of REPIDISCA and analyzes its contribution to the development of information work in the region, the problems faced, lessons learned and achievements and prospects.

Marta Miyashiro has participated in REPIDISCA since its start-up. She was responsible for the standardization of the bibliographic data base and the thesaurus, and was also in charge of the training activities. While working at the Environmental Systems Information Center (ENSIC) in Bangkok, Thailand, during 1990–1992, Miss Miyashiro was actively involved in the development of ENSICNET, another regional information network on environment and sanitation for the Southeast Asian region. Presently, she is CEPIS' editor and is enrolled in a Master Program in Linguistics.