# Chapter 1
## Summary of the Sessions

*Plenary Sessions. Summary of the Presentation*

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# Plenary Sessions.
# Summary of the Presentations

## Keynote Presentation: United States National Library of Medicine (NLM) The On-line Library: Technical and Human Challenges

*Dr Melvin Spann, Associate Director, Specialized Information Services, National Library of Medicine (NLM), United States*

The presentation focused on the Toxicology and Environmental Health Information Program (TEHIP) and its on-line service, TOXNET. After an overview of the program's development since the 1960s, the speaker explained how to access information in the program.

Dr. Spann outlined the sources and content of different NLM databases for environmental health and toxicology, which also include Medline, ChemID and Toxline. Plans for future development include a more powerful search engine, improvement of cross-file searching, and establishment of direct links to other environmental information sources.

The speaker explained various TOXNET information-sharing projects within and outside the NLM. A recent project to involve African-American universities was given as an example of overcoming obstacles to networking. The speaker emphasized the special interest of the NLM to intensify its work with under-served populations. In conclusion, the speaker suggested that PAHO and WHO should play a pivotal role in creating a network to share information regarding disaster and emergency relief.

## The Pan African Emergency Training Centre (PTC)
*Ms. Hedwig de Coninck*

The Centre has conducted training activities in Africa since 1988. Beginning in 1997 it has received major support and advancement with the establishment of the Emergency Health Training Programme (EHTP) at WHO Headquarters, which aims to strengthen the capacity for emergency health management in Africa. The role of the Pan African Emergency Training Centre as a documentation center is to provide information and training materials on disaster and emergency management.

The PTC is facing many constraints in the development of its library, as well as in providing access to training materials and policy papers. Financial, human and technical resources are restricted. Also, involvement with emergency management projects and activities is limited. An evaluation meeting is scheduled to take place in December 1998. The objectives are to develop a documentation center on disasters

and emergency health management, and to offer information and technology transfer for emergency health management in Africa.

Specific benefits will be increased visibility of the PTC through a Web site and a promotional brochure. On-line access to materials will be made available from the WHO/EHA/EHTP home page. The Centre proposes to develop collaboration with other documentation centers on health and emergencies, such as CRID and CRED.

## Refugee Studies Programme (RSP), Digital Library Project

*http://www.qeh.ox.ac.uk/rsp*
*Mr. Sean Loughna*

The Refugee Studies Programme is part of the International Development Centre at Oxford University whose objective is to increase knowledge on the causes and consequences of forced migrations (refugees), through research, instruction, publications, seminars and conferences, as well as providing a forum for discussion among researchers, field workers and decision makers.

The RSP Documentation Centre has the world's largest collection on the topic of refugees. Its catalogue contains some 25,000 titles, with an annual increase of some 3,000 to 4,000 titles, which are accessible through the RSP Web site. The Digital Library Project began in 1997 and aims to digitize most of the documents in the collection produced within the last three years, as well as new acquisitions, and make them available on the Web. The Project plans to make available other kinds of material in electronic format, such as distance learning packages and multimedia archives.

The Project aims to widely disseminate its collection of "gray" literature, with special attention to the needs of the developing world. A feasibility study was carried out, and the project is presently in the pilot phase. An evaluation of the pilot phase will take place in early 1999.

## Centre for Research on the Epidemiology of Disasters (CRED)
*Professor Debarati Guha-Sapir*

The CRED has existed since 1973 and maintains a collection of about 9,000 documents on disasters and related topics, the majority (70 percent) of which are in English. The main purpose of the documentation center is to meet internal requirements, though the library also provides access to researchers and outside visitors.

The main functions of the Centre are to: produce articles, working papers and mission reports; prepare conferences and courses; undertake bibliographic searches for project proposals; support students of different programs in their work; and support agencies and institutions working in the field of disasters.

Over time, the Centre has become more open to the outside world. It now has a home page on the Web with a list of new acquisitions. CRED does not plan to

provide electronic public access to full-text documents in the near future. On-line access to the bibliographic database will be created in 1999-2000. The aim is to expand the bibliographic database and to widen the use and access to the documentation center at national and international levels. Information exchange between CRED and other institutions will be improved.

Future projects include adding all training materials available at CRED to the bibliographic database, increase promotion of the Centre, and improve the collection, management and dissemination of information.

The influence of documentation centers is limited by the availability of funds. Participating in a network of centers would allow increased use of materials without excessive additional costs.

## Natural Hazards Information Center, Boulder, Colorado
*http://www.colorado.edu/hazards/index.html*
*Mr. David Butler*

This information center produces two newsletters: "Disaster Research" and "Natural Hazards Observer." It maintains a very active Web site, is responsible for the production of a numerous publications, organizes an annual workshop on hazard research and applications, and offers support for "quick response" research. The Center maintains a library with on-line access, and a collection of documents relating primarily to disasters and social sciences.

The focus of the Center is on support for long-term efforts to prepare for and mitigate disasters. The aim is to inform, but also to integrate and connect the various people and institutions that might benefit from each other's interests and expertise. For the last five years, the Natural Hazards Center has consciously opted to develop Internet resources to present its information.

The aim of the Center is to provide long-term support in disaster preparation and mitigation. In addition the Center uses its resources to provide answers to questions on disasters, using e-mail as a means of communication.

The Center primarily has a national focus, but thanks to the power of the Internet it has become a link for people and organizations around the world. Services requested most often from the Natural Hazards Center are: data on risks and vulnerability for specific locations, and historical data on disasters.

Within the U.S., the Center offers its services to government disaster managers, academic researchers and other professionals involved with disasters. At the international level, the closest links are with Canada and Australia and with the United Nations. Clients from Latin America and the Caribbean are also supplied with data, and they are informed that they can contact PAHO or CRID.

Mr. Butler pointed out various obstacles to greater international co-operation: access to technology; incompatibility of software; lack of standards; and questions of territory (i.e., who does what?). Most important are local conditions and concerns

regarding the end-user of the information. A strategy for marketing information would have to define who to target the information to and for what uses. A final barrier to closer co-operation is the current lack of an agreement or framework that defines commitments. Partnerships are needed to create synergy and effect measures beyond the capacity of single agencies.

The speaker recommended that disaster information centers share a Memorandum of Understanding. In addition, he suggested establishing a regular means of communication, such as an electronic mail list, regular meetings, and, if possible, the adoption of compatible databases. Above all, there should be collaboration in the development of information centers in under-served parts of the world that do not benefit from these types of services.

## Regional Disaster Information Center for Latin America and the Caribbean (CRID)
*http://www.disaster.info.desastres/crid*
*Mrs. Helena Molin Valdes*

The Pan American Health Organization started the Regional Disaster Information Center (CRID) in 1990, with the objective of facilitating access to and distributing technical and scientific information on disasters, thereby strengthening the culture of disaster prevention and reduction of vulnerability in Latin America and the Caribbean. Expansion continued with the inclusion of new members in 1994 and 1997 and its conversion into a multi-organizational project. The CRID now plays a central coordinating role in a regional disaster information system. The next step will be a change in the CRID's legal identity in 1999, in which it will become a foundation with its own voice and vote.

Since its creation, the CRID has worked very closely with BIREME[1]— the regional information system on health sciences—and uses a compatible methodology (LILACS) and database (Micro Isis).

The strategies of the CRID are designed to improve the distribution of information in the Region, and include the following:

- Gather, index and disseminate documentation;
- Promote regional interaction in Latin America and the Caribbean;
- Promote the development of national and sub-regional information centers and networks.

Information is gathered through partners, users, audiovisuals and appropriate Web links. The database contains a limited number of full-text documents. The CRID is promoting the development of a disaster thesaurus with regional or global features.

The CRID has made a major investment in the Internet and is channeling a large part of its work through electronic media. The database has been published for the past

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[1] BIREME is the Pan American Health Organization's Center on Health Information Sciences, and is located in Sao Paulo, Brasil.

seven years on CD-ROM, and can now be consulted on-line using the World Wide Web. The Center publishes bibliographies periodically and attends to thousands of information requests by regular mail. It devotes special attention to promotion and technical support in the development of national documentation centers. Future plans include increased collaboration and exchange with other centers, both within and outside of Region, and further development of Internet services. A balance must be maintained between global activities and local needs, since local services are essential. Both existing and future services should be sustainable.

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A plenary discussion followed the presentations. Individual and corporate interests were mentioned as impediments for group cohesion. The concept of "collective survival" could be appealed to as a way of encouraging institutions and centers to work together.

While the Internet has brought about new patterns of communication, traditional information media continue to play an important role. CD-ROM and other new developments are complementary ways of reaching the end user. While the CD-ROM is less versatile, it is relatively inexpensive to produce and can be widely distributed.

## Thursday, 19 November

## Relief Web, United Nations Office for the Coordination of Humanitarian Affairs (OCHA), New York
*http://www.reliefweb.int*
*Mr. Andrew Toh*

The United Nations Office for the Coordination of Humanitarian Affairs (OCHA), formerly the U.N. Department of Humanitarian Affairs, established the ReliefWeb in response to the need to disseminate information on humanitarian emergencies using the Internet. ReliefWeb is essentially a dissemination platform. As part of OCHA's coordination mandate, sharing and organizing information into "digestible morsels" was identified as an essential activity for the department. ReliefWeb was launched in 1996 to provide a central source of information for the humanitarian community.

With two teams, one based in New York and one based in Geneva, ReliefWeb compiles information from over 300 sources including UN agencies, international organizations, governments, nongovernmental organizations, the academic community, research institutions, and the media. ReliefWeb catalogues and organizes this information in a simple navigable structure so users can quickly and conveniently search for information about both natural and man-made humanitarian emergencies. The site contains over 20,000 documents with data dating back to 1981. Plans for ReliefWeb in 1999 include the development of mechanisms to enable users to take "shortcuts" to their areas of interest.

The Integrated Regional Information Network (IRIN) was developed in 1996 to facilitate news gathering and information analysis focused at the field level. IRIN provides regional situation updates, weekly summary reports, and region- or country-specific analyses from the field perspective. Information is disseminated through an e-mail subscription service *(http://www.reliefweb/dha_ol)*.

# Costa Rica's National Emergency Commission Website

*http://www.cne.go.cr*
*Mr. Douglas Salgado*

The National Emergency Commission of Costa Rica (CNE) is the national agency charged with coordinating disaster prevention and response. It is composed of ministers and presidents of those departments and institutions responsible for management of emergency funds.

The general objectives for Internet access and use at the CNE are:

*   To take advantage of the technological potential of Internet as a resource for disseminating information and knowledge about risk management;
*   To use the existing capacity of information services and telecommunications in the country to strengthen the dissemination of information on hazards, vulnerabilities and risks;
*   To provide a channel for transfering information between institutions, organizations and the entities associated with the national disaster prevention and response system.

While disaster information exists, the problem is getting it to the populations that most need it, i.e., vulnerable communities.

The operations center for the CNE maintains the following technologies: geographic information systems, databases with territorial information, and Web sites. The main products of the CNE database are thematic maps, digital archives, listings and technical documentation, and the electronic transfer of information. The flow of data and information for prevention and response to emergencies and disasters includes policy and decision makers, technical and operational personnel and the communities. Some 35,000 users were registered in 1998 and include various universities and institutions in Costa Rica.


# CERCA-Habitat

*http://www.siscom.or.cr*
*Mr. José Gabriel Román Madrigal*

The Center for Resources on Human Settlements in Central America (CERCA) has a database of graphic information collected from governments and the media, and is constantly updated. During the presentation, graphics were shown of the impact of Hurricane Mitch on the environment.

The objectives of CERCA are to:

*   Collect, catalogue, and disseminate information;
*   Promote and facilitate activities supporting regional solidarity through horizontal cooperation of associations;
*   Offer immediate specialized technical assistance to disaster-affected countries;
*   Formulate and implement national programmes for reconstruction and humanitarian assistance using a Central American approach.

# Humanity Development Library for Sustainable Development and Basic Human Needs, Humanity Libraries Project (HLP), Belgium

*http://www.oneworld.org/globalprojects/humcdrom*
*Dr. Michel Loots*

The objective of this nongovernmental organization is to provide, especially to developing countries, access to a complete electronic library on CD-ROM and the Internet containing thousands of technical documents with multidisciplinary solutions, know-how and ideas. It operates as a network with 70 participating organizations.

The Humanity Libraries Project started in 1993 in response to complaints made by professionals working with development projects in the field who had difficulty accessing technical and scientific information. If each community and everyone involved in disaster mitigation and development had access to the right information, at the right time and in the right place, the impact of disasters could be significantly reduced. CD-ROM and the Internet provide the necessary technology to provide every development professional in the world a basic library of 500 to 2,000 of the most essential publications or technical documents in their fields.

The HLP made a presentation of its CD-ROM and invited participants to join in the project or copy the idea. PAHO is working with HLP to create a digital library on disasters.

# The Virtual Health Library, Latin American Center on Health Information Sciences (BIREME)

*http://www.bireme.br*
*Mr. Abel Packer*

The Regional Library of Medicine started in 1966, and in 1982 was expanded into the regional Latin American Center on Health Information Sciences (BIREME). In 1985 the Health Sciences Information System for Latin America and the Caribbean was established under the coordination of BIREME, with 37 national coordination centers, 800 participating centers, and 230 cooperators. BIREME developed LILACS (a database of scientific and technical health literature), DECS (a trilingual thesaurus of health science terminology), and has published the LILACS CD-ROM for nine years which contains all health related databases from the region. BIREME provides access to original documents included in the database, offers training, and updates and develops technical resources for the analysis and exchange of information.

In 1998 BIREME initiated a regional project for a Virtual Health Library (BVS) as an approach to providing technical cooperation for health information in Latin America and the Caribbean. The BVS is a unique library, it exists in cyberspace, has decentralized production and operation, and requires strict quality control and evaluation of the literature. Sources of information for the BVS are varied, including traditional databases, electronic publications, multimedia training aids, selective dissemination of information, news and discussion groups, and, as integrating elements, the DECS thesaurus, LIS (a global health information locator), and standardized methodologies.

The technical foundation exists for adding a disaster component to the BVS, allowing links with all available products and services: WWW-ISIS interface (ISIS is a database server for operation on the Web), access to full-text documents, links on the Web, discussion lists, training materials, etc.

## *Friday, 20 November*

## Health intelligence network for advanced contingency planning (HINAP)
*Mr. N. Peachey and Dr. D. Deboutte*

The World Health Organization's Division of Emergency & Humanitarian Action (WHO/EHA) and the International Emergency and Refugee Health Program of the Centers for Disease Control and Prevention (CDC) in Atlanta, are jointly developing a project that would provide advance health data for contingency planning when mobilizing populations during emergencies. Currently, many different sources, programs and offices must be contacted, making it awkward - and sometimes impossible – to access vital health information for emergency personnel.

The objective of this project (HINAP) is to consolidate, sort, edit, organize and redistribute health information and data sources appropriately and timely to the responsible individuals. The information already exists or is being produced by different sources, and its availability in advance of field missions would expedite the process of rapid needs assessment.

World-wide potential risk areas requiring population movements would be identified, targeting the countries for contingency planning and advance health information gathering. An inter-agency cooperation on information systems related to potential population movements already exists and WHO/EHA has direct access to UNHCR's database on population displacement either on CD-ROM or the Internet.

The expected outcome of this project is to achieve:

- Proactive provision of health information and data for advance contingency planning;
- Easily accessible, 'one-stop' health information source;
- Reduction of morbidity and mortality from preventable health problems during mass population movements;
- Improved targeting in advance planning and stockpiling; and
- Cost reduction in contingency planning.

The final product is a user-friendly, consolidated Health Intelligence Network with high-quality updated information for decision-makers and relief agency field workers.

Comments and suggestions are welcomed by EHA at hinap@who.ch.

# Working Groups.
# Summary of the Discussions[2]

The following topics were discussed in this session:

*   Users and demand for information;
*   Technical and technological aspects of documentation centers, from the perspective of creating a network of centers;
*   Political and organizational factors that influence the creation of centers, particularly in the creation and operation of networks.

## Users and the demand for information

Because of the multidisciplinary character of the users and the variety of their needs, information must include various technical levels and be adequately structured. Documentation centers should play a central role in the selection and presentation of information. The exchange and dissemination of information should take place before, during, and after the occurrence of a disaster or emergency. Networks of persons and centers and distribution channels should be in place before a disaster occurs, and indicate different priority levels. The documentation centers should ensure that they meet local needs.

In the field of disasters it is very important for documentation centers to increase the value of the available information. To accomplish this, the profile of users should be analyzed and organized according to user needs and responsibilities. The centers should have active marketing strategies to promote and disseminate documentation. Elitism should be avoided in using different communication media, traditional and electronic, and by offering alternatives to access through the Internet (e.g., CD-ROM, public libraries, etc.).

The use of adequate documentation for decision-making requires close contact between executive directors and their collaborators. They should be invited to participate in the planning and operation of information centers, and asked to provide feedback and suggestions regarding services. A large part of the information should be directed at decision makers at the political and technical levels.

To increase the benefit of new information technologies, documentation centers should provide users with special training and evaluation.

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[2] The participants divided into three working groups and analyzed six major themes during two half-day sessions. Following is a summary of the main topics covered.

The arrival of the Internet, and the unprecedented level of attention given to this resource, should not result in the abandonment of priority target groups who have limited access to the Internet network.

## Technical and technological aspects of the documentation centers

Provision of information should not occur passively. The complementary use of active methods such as discussion groups or electronic mail lists are of special importance in promoting and attaining more effective use of existing documentation. Instruments such as CD-ROM, which can be duplicated and periodically updated, constitute an excellent alternative or complementary resource to Internet access.

The advantage of having standardized systems for processing and analyzing information in documentation centers has been proved repeatedly. The adoption of a common technology and standardized methodology are the criteria for developing functional information networks. Political level decisions and support are of primary importance in this process. In the Americas, important achievements have been made thanks to the establishment of a common language and methodology (created and maintained by BIREME). Greater efforts need to be made in the construction of an international thesaurus on disasters.

The arrival of the Internet has created new needs for standardizing the structure of databases and electronic formats. Existing search mechanisms are too varied, and require time and special knowledge to conduct a search. Resources have to be dedicated to researching and creating tools that can make the use of electronic documents more efficient.

The centers should specialize in specific interest areas rather than collecting and offering information on a wide range of topics. To facilitate such development, an inventory and assessment of capacity of national and international centers should be conducted.

The documentation centers should receive expert support in selecting and regularly updating a list of relevant documents on public health in emergencies.

## Political and organizational factors that influence the establishment of centers

Conflicts in interest can arise between the demand for free and unlimited access to information and the restrictions and limitations that many managers wish to impose.

Promotion of the use of the Internet by decision makers, and promoting free and equal access to information sources is an ongoing need, especially in countries where the technical and economic needs are greatest.

Documentation centers will not be able to achieve a good level of development and achieve sustainability without the continued support and recognition of national authorities. The benefits gained from creating networks facilitates and strengthens this process. The development of a true global network can only be aspired to if it is supported at national and regional levels.

International organizations and donor countries should provide this sector with the greatest possible technical and financial support to develop centers and modern and efficient services. They should also promote support for these centers among local authorities in the countries.

The second working group addressed the following topics:

- The Internet and a "virtual library" on disasters, and a new *modus operandi* for networks, libraries, or documentation centers;
- The balance between new and traditional services and current and projected costs of these services;
- On-line library for disaster preparedness and disaster assistance: a service for humanitarian assistance organizations in complex emergencies.

## The Internet and "virtual library" on disasters

The objective is to obtain high quality and reliable technical and scientific information, using flexible and economical tools. The creation of a "virtual library" based on new electronic technologies and the Internet will serve as means to achieve this objective.

Documentation centers and their authorities should consider the transition to a "virtual library" on disasters a priority. This is understood as the "base of distributed scientific and technical knowledge on disasters and emergencies, registered, organized and stored in an electronic format that is universally accessible through the Internet and is compatible with international databases." The development of the "virtual library" should take into account priorities of equity, freedom, and equal access to information.

Other methods should be considered, such as the production of CD-ROMs with complete texts, and ongoing development of databases with documentation on disaster management.

In the transition to digital services, compatibility with existing resources should be maintained.

Because different centers are at different levels of technological development, the primary focus should be developing services for local (national) users.

The documentation centers and their working networks should invest in the development of user-friendly databases that may be trasferred to the web.

Resources should be invested in Web sites thar serve as information sources (or umbrella sites) for disasters. The time that the average user spends finding relevant and quality documents should be reduced. Links between the databases of different centers will facilitate increased access.

Investment in the Internet should be promoted at the highest levels of management, and human resources should be trained to lessen the resistance to technology. The generation of a new culture will result in greater benefits derived from electronic information resources.

Regarding quality and relevance of information, the documentation centers should exert the necessary technical control to guarantee that databases, CD-ROMs, and Web sites contain information from reliable sources.

Technical cooperation agreements should be made between different centers to improve the development of a "virtual library" on disasters.

## Balancing new and traditional services; current and projected costs

The creation of networks implies sharing resources and reducing costs, but can also entail other commitments that require additional work. Many centers work with small budgets and are reluctant to take on other obligations. If the network becomes a reality, the agreements between centers should include aspects related to costs and charges. While access to the Internet should be free, the costs of photocopies and mailing should be recovered to guarantee the sustainability of the services.

## On-line library for emergencies and disaster assistance: a service for humanitarian assistance organizations in complex emergencies

The role of documentation centers should go beyond that of meeting academic interests. To provide access to operational agencies in emergency situations, it will be necessary to develop systems with complex and costly infrastructure and technology (such as satellite telecommunication). International agencies (such as the United Nations and others) can assist in obtaining funds to establish these projects. Centers such as the National Library of Medicine, which have a high level of technical and technological experience, can provide expertise and other resources to create pilot projects for complex emergencies.

# Chapter 2
Conclusions and Recommendations

# Conclusions and Recommendations

Centres and organizations from 17 countries around the world gathered in San Jose, Costa Rica to participate in the Global Consultation Meeting on Disaster Information Centres, organized by the World Health Organization's (WHO) Division of Emergency and Humanitarian Action and the PanAmerican Health Organization (PAHO) in collaboration with the Regional Office for the Americas of the International Decade for Natural Disaster Reduction (IDNDR), and the Regional Disaster Information Center (CRID).

## *The purpose of the meeting was:*

- Improve the ability of the health and other sectors involved in disaster reduction to prevent, mitigate and respond to emergencies and disasters.
- Share knowledge and experiences in each Center for the benefits of users;
- Stimulate collaboration and creation of joint Internet initiatives that will improve everyone's access to sources of technical and scientific information;
- Ensure more efficient and cost-effective dissemination of information by reducing duplication among the participating centers; and
- Explore options for on-site information services for humanitarian actors involved at the field level in major emergencies.

The bottom line of these efforts is to improve the services to those communities most at risk, prevent and reduce the impact of emergencies and disasters, and guarantee the well-being of affected populations; and to assist decision-makers with disaster management and risk reduction.

## *Considering that:*

- No center alone can satisfy the demand for information necessary to meet the diverse user-needs;
- New information and communications technologies exist that can prevent duplication of efforts and services;
- Research on disasters, and in general, their overall management, requires updated and sound technical and scientific knowledge;
- The production of technical documentation has grown at a fast pace, overwhelming the user in industrialized countries, but in others, information is slow in arriving to those who need it most; and
- Adequate management of this knowledge is not a technological problem, it requires professionals and specialized centers to organize and disseminate existing documentation to meet the needs of the users;

## Recognizing:

- The existence of information centers that have accumulated experience, resources and competence which should be used and transferred to other countries and regions;
- The potential of the Internet as a tool to disseminate and exchange information in a very short time and at low cost;
- The tendency towards the development of virtual libraries to improve access; and
- The need for a combination of electronic and traditional services to ensure information reaches all types and levels of users.

## Also recognizing that:

- The diversity of needs and development levels of centres and networks in different countries and regions;
- The difficulties in telecommunications in developing countries; and
- That disaster information processing is a multidisciplinary effort.

## The participating centers agree on the following:

**At the global level:**

- To contribute to the goals of the International Decade for Natural Disaster Reduction of spreading existing and future information on disaster forecasting, preparation and mitigation;
- To improve collaboration among all the actors and agencies active in disaster reduction information dissemination and awareness raising, in order to sustain a coordination mechanism for disaster reduction (along the lines developed by the IDNDR);
- To study a common platform that makes communications transparent between the disaster information centers;
- To request support from the National Library of Medicine (NLM) to develop special disaster information services in developing countries and for under-served populations; and
- To encourage international agencies to provide overall leadership as well as technical and financial support and advocate for disaster information centers with national governments and the donor community.

**At the regional level:**

- To continue and strengthen the integration of disaster information services, using compatible methodology;
- To improve links between centers and exchange of services, thus avoiding overlap of efforts;

- Specifically, in the Region of the Americas, to ensure technical collaboration and coordination so that the more recent national and sub-regional initiatives (Cuba's CLAMED, the University of the West Indies project, and Venezuela's initiatives) evolve within a common Regional Disaster Information System with the methodology approved by BIREME, CRID and LA RED.

**At the national and local levels:**

- To promote connectivity in order to improve community access to the Internet;
- To make agreements for cooperation with national emergency centers and institutions;
- To inform decision-makers in each of the countries about the informative support on disasters offered by their center; and
- To tap the installed capacity of the existing centers at universities, government institutions and international organizations, to create units specialized in disaster information.

## *Cooperation among information centers (networking)*

**The participating centers agree that:**

1. For disaster information exchange to be effective, it must take place before, during and after the occurrence of the disaster.
2. It would be advisable for each center to define a profile of target audiences (different levels) and identify the interaction between the target audience and providers.
3. Identify the different types of information to reach the target audience.
4. Develop an inventory of existing centers specifying their products and resources.
5. Streamline methodology for information processing and common terminology for a future virtual library.
6. Establish/make accessible training in information use and quality analysis.
7. To define a common and multilingual platform that makes communication transparent between the centers.
8. To make a start by distributing responsibilities among regions, as well as among centers.

## *The Internet and the Virtual Disaster Library*

**The participating centers also agree that:**

1. The documentation centers must consider as a priority their transition towards the Virtual Disaster Library model, understood as "the distributed base of scientific-technical knowledge in disasters and emergencies, registered, organized and stored in electronic format, universally accessible on the Internet and in a manner compatible with international databases.";

2. The Virtual Library must be developed taking into account priorities of equity, and free and equal access to sources of information;

3. The centers must promote, on the one hand, training the target users to use the Internet and the virtual library, and, on the other, continuously educating professionals in information to use these new technologies;

4. The centers must avoid duplicating efforts and must utilize the resources and methodologies validated for common use in each region;

5. The centers must foster and maximize connectivity to the Internet and connectivity among the existing or future sources of electronic information;

6. The centers must promote the continuous exchange of information, experiences, and the cooperative development of projects, within the context of the virtual library;

7. The organizations and centers must encourage the development of information sources which document disasters and emergencies;

8. A discussion list must be put on the Internet with the participation of all the centers attending the meeting, to continue permanent dialogue and communication. If other centers wish to participate, they should be included. PAHO will be requested to coordinate and put this service into operation; and

9. Connectivity among the different websites existing at the centers must be enhanced, creating special links. Agreements with the NLM and WHO/PAHO must be promoted to develop a basic model of interchange.