Pan American Health Organization

Regional Office of the World Health Organization

Executive Summary

2004 Annual Report of the Area on Emergency Preparedness and Disaster Relief

This past year, 2004, began and ended with disasters—some overwhelming and some small, some natural and one of human origin. All had a profound effect not only on the affected countries but also on the work of the Area on Emergency Preparedness and Disaster Relief of the Pan American Health Organization. The response and coordination of these emergency situations claimed a substantial amount of time in providing technical support and backstopping of country offices. However, more importantly, they also yielded valuable lessons and insights and helped to shape our core areas of work. While the impact of our normal disaster preparedness and mitigation activities is described in the body of the Annual Report, this executive summary highlights some of these important issues that have come to light in 2004.

Striking a balance between emergencies and development: Haiti is one of the five highest-priority countries for the Pan American Health Organization's technical cooperation programs. These priority countries—which include Bolivia, Guyana, Haiti, Honduras and Nicaragua—are the region's lowest-ranking in terms of life expectancy and per capita income. A series of emergency situations in Haiti in 2004—first the civil strife caused by the departure of former president Aristide in February, followed by severe flooding at mid-year and finally, the effects of Tropical Storm Jeanne in September, helped focus on the need to strike a balance between emergencies and development. PAHO/WHO is a specialized health agency that uniquely addresses, in an integrated manner, all health issues—either chronic (long-term) or acute (outbreaks, disasters). PAHO is not a humanitarian organization, but rather a development agency with a vision. As a development agency, PAHO has always maintained a long-term perspective with regard to its disaster management activities. PAHO has long recognized the link between relief, rehabilitation and development:

- Responding rapidly and successfully to emergencies and providing health technical cooperation has considerably enhanced PAHO's ability to contribute to reconstruction and resume health development programs.
- Disasters offer windows of opportunity for improvement: PAHO has been able to seize these opportunities in the past.
- Ensuring that the international health response is compatible with and supportive of long-term priorities has always been a trademark of PAHO's post-disaster response.
- PAHO's objective has always been to improve the overall disaster response, not just its own input.

Preparedness for the overall aspects of emergency response: The 2004 hurricane season was particularly hard-hitting. Hurricanes and tropical storms battered the Caribbean and parts of the U.S, leaving a wake of devastation. Hurricanes Charley, Frances, Ivan and Jeanne proved to be most deadly, reminding us that disaster preparedness efforts cannot cease. Grenada, Haiti, the Dominican Republic, the Cayman Islands, Cuba, St. Vincent and the Grenadines, Jamaica and the Bahamas suffered the ravages of these storms. Earmarked funding was mobilized to meet emergency needs, but it was our core funding that made possible the human infrastructure and platform on which the response was carried out. However, the case of Grenada challenged our traditional disaster preparedness model by raising the question: can we, should we and to what degree is it possible to shift the balance from traditional disaster preparedness in small islands that run the risk of island-wide devastation, as was the case in Grenada, to a more comprehensive program of disaster mitigation that protects critical health facilities?

Advocacy for health initiatives is an integral part of our work. Disasters leave in their wake stark reminders that countries must work to reduce their vulnerability. Because these lessons are often repeated without corrective action being taken, PAHO's role is to provide advocacy for and accompany the process of strengthening national health authorities to achieve this goals. In 2004, Latin American and Caribbean nations joined forces to promote the adoption of "safe hospitals" as one of the multisectoral indicators of global disaster vulnerability reduction by the World Conference on Disaster Reduction (January 2005). This laid the groundwork for the passage of a Resolution at PAHO's most recent Directing Council meeting in September, urging Member States to adopt "Hospitals Safe from Disasters" as a national risk reduction policy and set the goal that all new hospitals are built with a level of protection that better guarantees their remaining functional in disaster situations. A short publication on what hospitals represent to nations—in human and economic terms—was prepared to set forth a common vision. PED will lead a strategic effort, in conjunction with other PAHO technical areas, WHO regional offices and regional health agencies to promote this message and strengthen leadership of the health sector to achieve this indicator.

Inter-agency collaboration is critical: The field of disaster reduction is becoming increasingly crowded and competitive, with overlapping activities in many areas that were once the traditional domain of the health sector. This reality is even more glaring in the response phase of disasters. It is often the case that the more severe the emergency, the more crowded the playing field, which sometimes results in competition rather than coordination. Strengthening collaboration with other global, regional and national disaster management agencies will improve coordination. PAHO can cite several examples of coordination (where organizations with distinct skill sets are effectively combining resources and working together toward a shared goal) that were stepped up in 2004 through memos of understanding and letters of agreement with NGOs, UN agencies and foundations. The most visible of these is the Logistic Support System (LSS). Six U.N. agencies partnered to develop a common software platform for the management of humanitarian supplies. The first phase of the LSS project successfully concluded in 2004 and efforts will now focus on the implementing the system in an actual emergency setting.

In-house coordination is just as important: Coordination in house (among technical areas in PAHO, within PWR offices and between country offices and PAHO/HQ) is equally as important and just as much a challenge. Many recent disasters have highlighted the fact that disaster management cannot be considered the vertical responsibility of PED alone, but rather must become a cross-cutting issue that is formally incorporated into the work plans of all PAHO divisions and country offices. However, stimulating the participation of PAHO technical experts in disaster preparedness and response activities

continues to pose a challenge. Information management in the immediate post-disaster phase is a case in point. The collection, analysis and distribution of information on the impact of a disaster on the health sector and health needs require the quick response and input of a variety of health experts. Our challenge is to enable PAHO's technical experts to shift gears quickly to collect and analyze time-sensitive information in such a way that it provides a value added for decision makers and work with PAHO to create a more flexible response mechanism in an organization geared more toward development. These issues have become priority for the Organization and will be the topic of subregional workshops in 2005.

Just five days before 2004 drew to a close, a devastating earthquake and tsunami struck 11 countries in south Asia, a disaster of global proportions that prompted worldwide attention and response. As 2005 unfolds, the ramifications of this enormous disaster are being felt throughout the disaster community, and although none of the affected countries falls within PAHO's jurisdiction, as a regional office of WHO we have already and will continue to collaborate on a number of fronts. One experienced PAHO disaster staff member will have spent two months as the WHO team leader in Banda Aceh, Indonesia, coordinating the health response in this most devastated nation. PAHO's longstanding experience in preparedness and response and its regional cadre of seasoned professionals will support WHO in relief efforts, resource mobilization, information management and project formulation and implementation. No doubt, a disaster of this magnitude will reveal lessons that should have been learned and will uncover new ones as well. These lessons are and will be, after all, the backbone of disaster preparedness.

Pan American Health Organization

Regional Office of the World Health Organization

Annual Report 2004

Presented to the Members of the Partnership for Health Preparedness

Canadian International Development Agency
Department for International Development of the U.K.
Office of U.S. Foreign Disaster Assistance (USAID)

Introduction

This is the 2004 Annual Report on the activities carried out by the Pan American Health Organization's Area on Emergency Preparedness and Disaster Relief (PED). It is presented to the members of the Partnership for Health Preparedness (PHP): the Canadian International Development Agency, the Department for International Development of the U.K. and the Office of U.S. Foreign Disaster Assistance (USAID), in compliance with our partnership agreement. It covers calendar year 2004 (January – December).

The report is structured around four expected results and a series of indicators that were developed in collaboration with our partners, following the presentation of PED's Strategic Plan at the 2003 meeting of the PHP (Belize). These indicators correspond to the five-year life of the strategic plan and this report charts annual progress toward the indicators. This report focuses on the impact of disaster preparedness, mitigation and response activities in the health sector of Latin America and the Caribbean and does not pretend to provide a full account of all work carried out.

Latin America and the Caribbean are exposed to all types of hazards. This past year has been characterized by a cluster of devastating hurricanes that affected six countries. Clearly the most cost-effective way to reduce the impact of any crisis is to prevent it from happening in the first place. However, disaster prevention does fail, and local and national systems must have the capacity to limit the extent to which people suffer in crises. PAHO/WHO strives to build in-country capacity to reduce the adverse health impact of crises by providing the best available tools to member countries and all actors through advocacy, training, improved information dissemination, direct technical cooperation, and alliance building.

Disaster Preparedness

The health sector in Latin America and the Caribbean is better prepared to respond to the health consequences of natural, manmade and technological disasters.

Spiraling population growth in urban areas of Latin America, and the growing percentage of the population that remains marginalized from many government services, coupled with national budgets that are slowly declining–including for health services—make the citizens of this Region vulnerable to the health effects of disasters. The task of reducing the vulnerability of the health sector is, however, too great for the Ministry of Health to undertake alone, particularly in its current condition in many countries. In 2004 substantial efforts were made to take this case to other sectors, sensitize them to, and lobby for support in addressing health aspects of disasters, integrate the topic of vulnerability reduction of critical infrastructure into their training efforts and routine work, and build coalitions that will ensure sustainable results.

In the 80 % of PAHO Member Countries in which a national health disaster programs presently exist, maintain (staff and funds) and/or adapt these programs to changing country situations as needed.

During 2004, there was a marked increase in formal subregional cooperation agreements that encompass disaster preparedness and mitigation, as a result of initiatives that were implemented in the recent past. This process is particularly important because it strengthens the position of the Ministry of Health and gives legitimacy to the need to address and reduce the consequences of disasters on the health sector.

One successful strategy was to support subregional integration mechanisms in order to include health disaster preparedness and response in the political agenda of other sectors. As a result of this approach, Central American nations approved a subregional Disaster Plan for the Health Sector in 2003. This plan formalized technical cooperation in disaster situations to ensure a timely, organized and efficient response. Within this framework, in 2004 these countries expanded their cooperation to include two other issues: mental health and hazardous materials.

Andean Countries Approve Five-Year Disaster Plan for the Health Sector

Within the context of the strategic commitments of CAPRADE, an Andean Health Plan was produced that addresses disaster preparedness and response. The objectives of the plan include:

- Establishing a common policy throughout the Andean region in terms of health disaster preparedness and response.
- Conduct a systematic search and compile documentation on the political state of disaster reduction in the Andean Region countries with a view toward learning about similar programs, differences and alternatives and to be able to produce a coherent work plan.
- Improve interaction among the disaster programs and the international relations offices in the Ministries of Health. Also

A subregional **Mental Health Plan** was developed in a political framework that fostered and required joint collaboration. This collaboration was a key factor in its subsequent approval by the Ministers of Health. Later in the year, the Plan became an operational tool to assess country capacity at the local level to train health personnel and to design follow-up programs. One important gap that remains to be filled is the availability of mental health diagnostic and intervention tools for disasters. Although PAHO/WHO published a technical manual on mental health in disaster situations, which was recognized by the countries as an excellent reference document, it is insufficient as a practical handbook of what to look for and how to provide services that deal with this often overlooked aspect in the aftermath of a disaster. A new practical handbook is expected to be finalized in 2005.

The other topic that contributed to reinforce technical cooperation between countries was the management of hazardous materials. This issue has been promoted through regional courses organized in Sao Paulo, Brazil by CETESB[1], the PAHO/WHO Collaborating Center for chemical emergency preparedness and response. A group of former Panamanian participants in this course, with the support of PAHO, developed a national initiative that evolved in 2004 from a Panama-PAHO-CETESB initiative into a Central American Plan; from a one-country health issue to a multisectoral Central American integration commitment. The initiative to improve the capacity of Panama's health sector to respond to chemical disasters began with a workshop. The workshop for the diagnosis of hazardous situations and a national capacity for response to chemical emergencies was the beginning of a joint effort between multiple institutions linked to the production, transportation, storage, use, and response to accidents with chemical products in Panama. The Ministry of Health of Panama assumed the leadership among their Central American counterparts and proposed the preparation of a Central American cooperation plan to respond to chemical accidents.

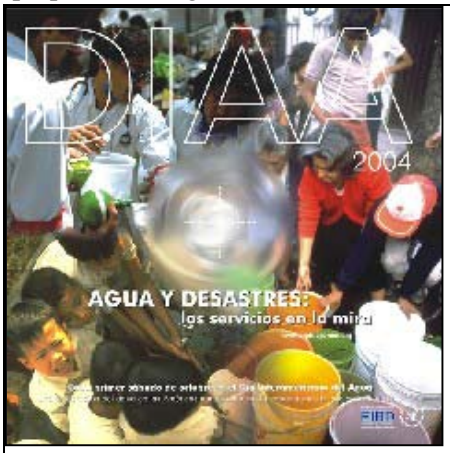
The interest of the Ministers of Health progressively involved the institutions responsible for environmental management at SICA[2]. After several months of negotiation and sharing of experiences promoted and supported by PAHO, the Ministers of Health of Central America, and the Dominican Republic approved the **Subregional Plan for Integral Management of Hazardous Materials**. This agreement includes the participation of the secretaries of agriculture, secretaries of environment, and the UNITAR[3] chemical and waste management program.

Similar approaches, but a higher level, render it fruitful in the Andean Region. In 2002, PED was instrumental for the creation of the **Andean Committee for Disaster Prevention and Response** (CAPRADE) in the Andean Community of Nations (CAN)[4]. The continuous support to this entity for the elaboration of the Andean Strategy for Disaster Prevention and Response, approved in July 2004 by the Andean Community, determined the inclusion of the health sector concerns in this policy document. The

[1] CETESB - Companhia de Tecnologia de Saneamento Ambiental, da Secretaria de Estado do Meio Ambiente do Governo do Estado de São Paulo. (www.cetesb.sp.gov.br/emergencia/emergencia.asp)
[2] The Central American Integration System
[3] United Nations Institute for Training and Research
[4] The CAN is a subregional organization comprised of Bolivia, Colombia, Ecuador, Perú and Venezuela, formed to promote economic and social and regional integration and improve the lives of the population of this region. (www.comunicadandina.org).

health sector now figures prominently and has been assigned specific areas of responsibility giving it much more backbone and political support to the Ministries of Health. Taking advantage of this success, the Ministries of Health of six countries prepared and agreed on a **Five-Year Disaster Plan for the Health Sector**.

In addition to the previous issues, Latin American countries are facing many public health risks, including the consequences of diseases like SARS, avian influenza and terrorism. In all of these scenarios, the challenges are to remain focused, avoid diverting resources, and adopt a multi-hazard approach. Building the overall capacity of the health sector is the best approach to establish a more effective national and regional strategy against bioterrorism, and will have the additional benefit of improving response to natural infectious disease outbreaks and/or new emerging diseases. PED participated in the planning and organization of several workshops and meetings promoting the development of overall disaster plans and programs including human resources development, provision of authoritative information, strengthening laboratory capacity and strengthening early warning epidemiological surveillance, and emergency response useful for bioterrorism and disaster reduction. In Barbados, PAHO provided technical support to the OAS Inter-American Committee against Terrorism Secretariat in the planning and execution of a terrorist simulation exercise involving radiological materials.



World Water Day Shines Spotlight on Disasters

The theme of the 2004 celebration of World Water Day (organized by WHO and WMO) was "Water and Disasters," highlighting the problems caused by too much and too little water and giving special attention to the grave threats to health that occur when water and sewage services are affected by disasters.

For more than 10 years, Latin America and the Caribbean have celebrated the Inter-American Water Day. This year, in the regional celebration linked to the global one, the slogan "Water and Disasters: Spotlight on Services" was used to point out the importance of incorporating disaster preparedness and prevention in the water sector's development plans. The purpose of this annual celebration is to focus attention on specific topics and develop strategies for implementation. The 2004 celebration focused on promoting the recommendations of a major PAHO/ISDR meeting on vulnerability reduction in drinking water systems, at which a ten year plan of action was developed and approved (see Annex 1).

INDICATOR

New disaster-related training and educational opportunities provided to at least 5,000 disaster professionals region-wide.

When it comes to health disaster preparedness and management training initiatives, PAHO continues to support, in some fashion, a wide variety of events throughout the Americas. The number and variety of training events have increased, thanks to a stronger involvement of the network of disaster focal points in the PAHO Country Offices who are taking over the more "traditional" disaster preparedness training of specific national interest. Although increasingly, government agencies, universities or other institutions are

assuming most of the cost and the responsibility for these activities, PAHO's support (in the form of technical material, seed money or institutional backing) will continue to be required for some time to come.

The degree to which countries have assumed responsibility for routine training has allowed PAHO to focus greater efforts on a limited number of training initiatives with greater impact. One of these is the hospital disaster planning course, which currently is available only in Spanish. The course, which was developed last year, became so popular that it was revamped in 2004 and additional materials were developed to train trainers. In the coming year, efforts will be devoted to strengthening this network of trainers in the Americas so that this activity will become a priority for and responsibility of member countries.

New Materials Improve the Hospital Disaster Planning Course

In 2003, PAHO published a training module to support the organization of hospital disaster planning workshops. Suggestions and comments on how to improve the content were gathered from the participants at many of these workshops. At the same time, PAHO began working with other experts to develop complementary material to train trainers.

The result is the second version of Hospital Disaster Preparedness, a technical training tool that now includes the methodology to train trainers to carry out these courses. The revised version includes lesson plans, guidelines for instructors, visual aids, evaluation forms and reference material.

The LEADERS course is another example of the type of training that PAHO is focusing on. In 2004, courses were conducted in Mexico and Brazil (in Spanish and Portuguese respectively), helping to increase the regional risk management network in the health sector. These courses also strengthened the head offices of member countries, identifying national instructors and promoting involvement and coordination among institutions that did not normally coordinate, and had not participated in past courses. This was not only beneficial to the coordination of these institutions at the country level, but also increased the quality of presentations and exchange of experiences inside and out of the health sector. Brazil has taken leadership in organizing and financing the national version of the LEADERS course, an important step in the proposed decentralization of this activity.

Likewise, Mexico has assumed an increasingly significant role at the national level in furthering the LEADERS course. Many of the "instructors" at the 2004 course were health experts from the state and local levels who outlined national policies and the prospect of implementing them at local levels. The National Civil Protection System, the Center for Disaster Prevention at Mexico's National Autonomous University, the Mexican Institute of Social Security, the National Institute of Public Health, and the Center for Epidemiological Surveillance and Disease Control presented many of the course modules, and through demonstrations and general discussions showed the enormous potential of international courses to draw on strengths of sectoral and multisectoral efforts and the immediate impact in the approach of these institutions toward the reduction of disasters.

The first course presentation outside of the Americas was held in Thailand in November 2004, following the participation of professionals from Nepal, Sri Lanka, Indonesia, and Papua New Guinea in the

Leaders course in Jamaica in 2003. The International Training Course on Disasters and Development was organized by the South East Asia Regional Office (SEARO) of the World Health Organization, the United Nations Development Program, and the Asian Disaster Preparedness Center. A former PAHO staff member served as the course facilitator, bringing with him the experience of having participated in more than seven courses in Latin America and the Caribbean. There is now an increased interest on the part of the WHO West Pacific Region (WPRO) to organize a LEADERS course in the Philippines in 2005.

The LEADERS network is an informal group of "graduates" of past courses that keeps in regular contact through a listserv, a web site, and on a one-on-one basis, in order to discuss areas of common interest and provide mutual support. It has become clear that the members of this network will require follow-up training in specific areas such as management of humanitarian assistance, project development, and management techniques if the momentum is to be sustained.

With regard to the international HELP (Health Emergencies in Large Populations) courses (México and Johns Hopkins University), PAHO's contribution was instrumental in developing the course in Cuernavaca, México, through course planning and support, as well as the identification, selection and mobilization of instructors and participants. The health emergency module used in the English-language HELP course was developed in Baltimore, MD and presented by PED. It contributed to the dissemination of information regarding regional strategies in disaster mitigation and preparation among the participants of this course who came from other Caribbean countries, U.S. non-governmental organizations and cooperation agencies.

Fifteen new or completely revamped technical or scientific publications on all aspects of disaster management.

A list of new publications and technical materials developed in 2004 can be found in Annex 2. In some critical topic areas related to disaster preparedness and mitigation, it is not enough to simply publish manuals and guidelines. Supplementary materials must be developed in order to make the most of the publication or allow it to be used as a teaching aid. In keeping with initiatives implemented in previous years, an updated version of the *Hospital Planning for Disasters* material has been prepared. It includes a new "training of trainers'" module, and all of the existing material and training aids that had been used in courses were updated. This course was the most widely offered course in 2004. Training material to support the publication *Damage and Needs Assessment in the Health Sector* (published at the end of 2003) was also finalized. The manual, *Management of Dead Bodies in Disasters,* quickly became one of the most popular publications, and in order to enhance its use, supporting material was made. A work plan/timetable was also established for the publication of new material on mental health in 2005. The most valuable aspect of this material is the support that it provides to the training of trainers, creating local capacity to handle disaster situations, and thus reducing dependency on PAHO.

During the second half of 2004, an **evaluation of our publications** was carried out in four Spanish-speaking countries of the Region: Colombia, Ecuador, Honduras and Costa Rica. The purpose of the survey was to gain a better understanding and in particular their level of satisfaction regarding information resources and publications. At the same time, the study was to provide a technically validated look into how the publications were used, and their influence. A copy of the Spanish version of the survey is available upon request, or on the web at www.disaster-info.net/encuestainforme. An abbreviated version in English is attached in Annex 3. Several highlights of this evaluation include:

User satisfaction

- People under 30 years of age (17.3% of the recipients of the newsletter) consider the contents of these materials to be innovative and well-written. Those in the 31-60 age group (71.5%) appear to have clearer ideas regarding the ability to achieve goals through the use of the publications and tend to use the publications more widely. Adults over 61 (2.9%) find publications difficult to understand and cannot identify any specific added value in them.

Dissemination, distribution and access

- Internet downloads seem to be the preferred method of distribution for publications, followed by individual replies, CRID, local PAHO Offices, and PAHO meetings or workshops. Even though 93% of the respondents have Internet access, it does not necessarily imply they actually use it to obtain information about publications or to consult them. In fact, 30% of the respondents visit our web page less than once a month.

Impact

- Professionals interested in emergencies and disaster management, technical staff of related institutions (i.e. NGOs, municipalities), and upper management officials, in that order, are the most frequent readers/users of publications for reference and research, formal and informal training, and to improve their knowledge.

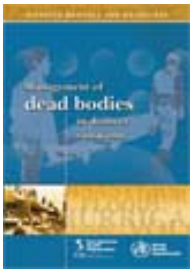
Those responding to the survey made some interesting suggestions, including the need improve dissemination and distribution (i.e. to achieve greater availability), develop more publications for policy makers and managers, update obsolete publications, broaden the target audience, and produce more in-depth publications on mental health, hazardous materials, and chemical accidents.

Regarding recommendations and priority actions, it was determined that dissemination and distribution are the weakest points, and that improvement is required on several fronts. The necessary improvements include a need to improve the coordination and participation of PAHO Offices, improve focal points in the distribution process, and more regular delivery of the Disasters newsletter (i.e. need to improve quality of data in mailing list, dissemination and distribution of books with better focus on target groups).

The new Manual on *Management of Dead Bodies in Disasters* (published in English by the World Health Organization) created opportunities for joint dissemination and training activities among several international organizations including ICRC, IFRCS, and WHO. In the two months following the tsunami in South Asia in December 2004, several thousand copies of the book were distributed worldwide. PAHO's Public Information Department helped to disseminate the critical message of this book after emergencies in Haiti and the Dominican Republic and later in Asia. The manual also received unprecedented attention in the media (see box).

Applying new technologies to the learning process creates innovative training products. A case in point is the multimedia simulation exercise on volcanic emergencies that is currently being developed. The software, designed with the support of the Monterrey Technical Institute in Mexico, will enable the development of exercises on decision-making and technical coordination with the Emergency Operations Centers. Participants will "play" different roles, solving problems during a simulated emergency. This builds capacity for applying technology to solve real problems related to emergencies and disasters.

Mass media's much needed contribution



It is a well-known fact that the direst crisis offers a window of opportunity to work with the media in the dissemination of technical messages to help destroy myths and create awareness regarding certain conducts or inadequate decisions that might further increase damage or suffering inflicted to the victims. How to deal with cadavers is one of the most significant myths that, due to social and cultural sensitivities, has generated hasty decisions in the management and disposal of corpses in emergencies (unidentified bodies, mass burials, mass cremations, to mention a few).

In the days following the tsunami that devastated Asia in December, PAHO's Public Information Department published a press release based on the technical recommendations included in the book (available at http://www.paho.org/english/dd/pin/pr050104.htm). Some days later, we conducted an Internet search (in Google and Yahoo). The results indicated more than 550 direct references to that press release in different media around the world, highlighting the fact that, contrary to popular belief, cadavers do not pose a health risk in disaster situations. A few months before that, a scientific

PAHO collaborates often with national and international organizations to prepare new technical materials. As an example, five new guidelines on health preparedness for volcanic eruptions were developed and are being tested with a group of operational, academic and scientific organizations working in disasters and emergencies in Ecuador and Colombia (i.e. Ministries of Health, Red Cross Societies, Civil Defense, seismological institutes, NGOs).

Increased access at the local level to global sources of disaster and risk reduction information.

INDICATOR

As in previous years, the mission of the Regional Disaster Information Center (CRID) continued to expand beyond its original mission to gather and disseminate disaster-related information. In 2004, CRID consolidated alliances with several external partners including the National Library of Medicines (NLM), DIPECHO, the Caribbean Disaster Information Network (CARDIN), the University of West Indies, the Regional Health Sciences Information Center (BIREME), and Ministries of Health and National Emergency Commissions in the Americas, all of which allowed CRID to expand its distribution network at relatively low cost.

One of the key new strategies developed by CRID in 2004 is the preparation of several informational kits to support training and preparedness, mitigation and response activities. Six kits were developed in 2004 and others are expected to be finalized in 2005. These kits were electronically distributed to PAHO offices and other organizations in Haiti and the Dominican Republic during the 2004 floods.

CRID Regional Disaster Information Center Latin America and the Caribbean

CRID becomes major producer of information products

An important achievement in 2004 has been CRID's reduction in its external technical and technological dependence on sources as it has developed its capacity to produce many of its products in-house.

The new series of information packets is one example. With packets currently covering topics such as drought, risk maps, community participation, hurricanes, floods and earthquakes, these kits package together general information about the topic, training materials, contact information, web site links, recommendations and even information for special groups.

CRID's increased institutional capacities have helped the Center attain leadership in the disaster information 'market' in the Region as they devise new methods of organizing

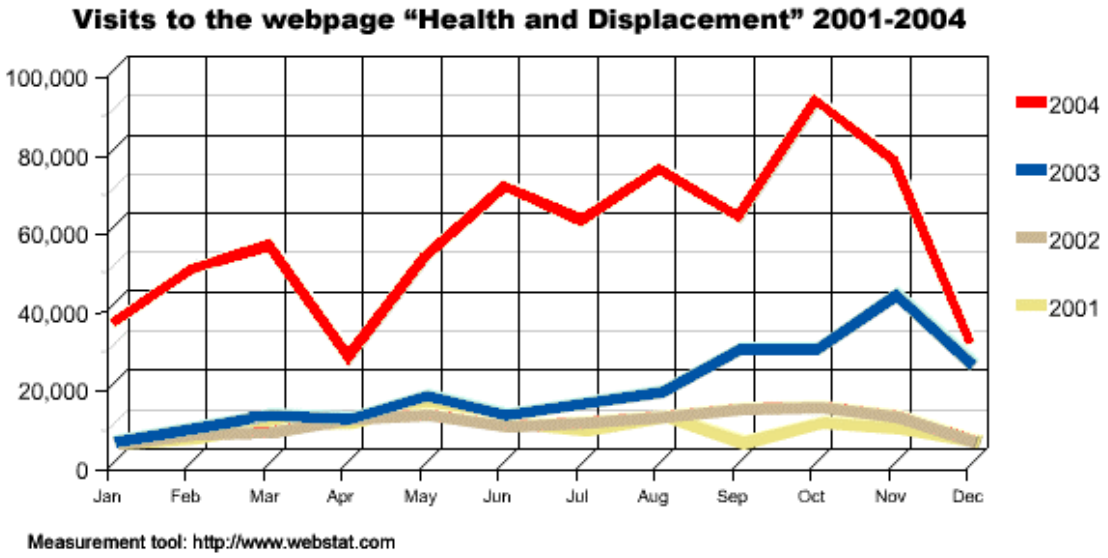
By December 2004 the number of documents available electronically through the CRID had increased to 5,200, from 3,000 at the end of 2003. It is estimated that with the additional support received from ECHO, this number will double during 2005. This is extremely important, as CRID has noted that access to computers and the Internet is becoming more and more available to most organizations in the Region. In addition, the easy, immediate, and free access to the information encourages users to increase utilization of the resources available through CRID, as web statistics have shown that satisfied users return. Finally, digital documentation is readily available beyond the Americas, increasing CRID's user base. However, to be realistic CRID continued to deliver information by regular mail when other means of communication were not available.

As recommended by the external evaluation carried out in 2003, CRID has increased its promotional and training activities. Within the training activities, CRID co-organized a workshop in Lima, Peru to develop institutional capacities. This activity was attended by professionals from the Andean region along with professionals from Costa Rica and Cuba. In Honduras CRID carried out a workshop for the training of trainers in health disaster information resources. The CARDIN coordinator spent a week in CRID's offices training in information management. Following this training, the University of West Indies

has enhanced its relationship with CRID to share information and request assistance in the preparation of material related to health and disaster information. CRID has also responded to many requests for technical assistance in the development of materials. Participation in forums and training sessions has also become a standard CRID activity.

The Central American Health and Disaster Information Network continued its activities and added Guatemala as a new partner. A training activity was carried out in Guatemala with instructors from CRID, PAHO, ISDR and NLM. The activity helped to strengthen the national capacity in access and management of technical information on health and disasters. The impact of this network can be seen in the quality and quantity of new products and services provided, and the request of replicating this experience in the countries of South America. The centers of Honduras and El Salvador are already providing training activities at local level without direct involvement of CRID.

The web site on Health and Population Displacement has been a key strategic component of this multi-country project. As the graphic demonstrates, there was a steep rise in the number of visitors to the site in 2004 (674,233).



The increase was due to improvements in tracking the actual interior consulted as well as to stepped-up efforts to expand the documentation offered, which includes technical documents, legislation, and reports on public health aspects of population displacement. The site has been reorganized and is now easier to navigate, thanks to an improved search engine. It has also been more widely publicized throughout the international community.

Because of the multiple humanitarian actors and efforts underway in Colombia to address issues related to health and displacement, a Humanitarian Action Plan was developed in 2004. The plan is a joint effort among the government in Colombia, civil society humanitarian groups, donors, and the UN system to contribute, in a coordinated manner, to the response to the health needs of the at-risk population living in these conditions. The health committee, chaired by PAHO and the Ministry of Health, is made up of national and UN agencies and civil society. Donor agencies have entrusted the committee with the task of reviewing funding proposals prepared by local institutions and identifying those that address priority health needs. The web site has improved coordination and access to information about these projects. The database of institutions, which was revamped in 2004, offers extensive information on all actors working in issues related to the health of the displaced population in Colombia and neighboring countries. This institutional database was the most utilized area of the web site in 2004, followed by the section on maps, the section on occupational health training of a French Red Cross manual, Ministry of Health guidelines on the psychosocial response and nutritional standards.

Disaster Mitigation

Health sector agencies responsible for reducing the structural non-structural and functional vulnerability of health services and water system infrastructure have the necessary awareness, materials, knowledge and skills to reduce this vulnerability to natural hazards.

Disaster mitigation in the health sector looks at two areas: reducing the physical and functional vulnerability of all types of health facilities—hospitals and clinics—and reducing vulnerability of water and sanitation systems, a more difficult task given the reasons that are put forth below.

Number of construction or retrofitting projects that include the variable of disaster mitigation or for which vulnerability studies have been performed.

Lobbying efforts aimed at reducing vulnerability to disasters were stepped up in 2004, not only within the health sector (Ministries of Health and health services) but with Civil Defense, Ministries of Foreign Affairs and others. The most notable achievement was the CAPRADE Andean Strategy (described in the previous section) which included disaster mitigation. This achievement provides the foundation on which to build concrete results in the years to come.

Colombia commits additional budget to vulnerability studies

By law, the government of Colombia requires an assessment of the vulnerability of national health facilities and the retrofitting of those that are determined to be at risk. It has studied the advances from these vulnerability studies and has found that 100% of the nation's tertiary level hospitals (the most complex), 30% of secondary level facilities and 16% of primary level facilities have carried out seismic vulnerability studies. In 2004, the government assigned 1.1 million Colombian pesos to raise to 45% the number of secondary facilities that

From a social standpoint, health care facilities are too valuable to health, the economy, and the community to lose them in a disaster. Approximately 50% of the 16,567 hospitals in the Americas are located in high-risk areas. In the last 20 years, more than 100 hospitals and at least 1,000 health care centers in this region were damaged as a consequence of natural disasters, which amounted to losses of over $3 billion dollars.

When struck by large-scale natural disasters, damage to infrastructure often causes the services provided by hospitals and health care facilities to be interrupted temporarily or even permanently. The operational loss of these facilities often leave a severe and lasting scar on the welfare and the socioeconomic development of communities and countries, not to mention the financial losses involved. Most recently during the 2004 Hurricane season, hospitals and health facilities in Grenada and Haiti that the community once viewed as points of refuge and trust were paralyzed or destroyed when they were needed most and they themselves became in need of urgent assistance.

PAHO used the World Conference on Disaster Reduction (WCDR), held in Kobe, Japan, January 2005, as the catalyst for a number of regional events that focused on safeguarding critical infrastructure from the effects of disasters. Two major subregional meetings were held in Latin America (Nicaragua) and the Caribbean (Trinidad and Tobago) to review the status of disaster vulnerability in the health sector of the Americas, propose a forward-looking strategy through 2015, and identify topics for discussion at the WCDR (recommendations attached in Annex 4). The principal conclusions from these meetings were:

- Low and middle-income countries have demonstrated, through pilot projects, that it is possible to significantly reduce health vulnerability to disasters with existing technical and financial resources.
- Every new hospital must be designed, built and maintained so that it continues to function immediately after a disaster.
- For the most part, technical or financial difficulties do not stand in the way of making hospitals safe. Any significant advancement in vulnerability reduction in the health sector now depends essentially on other sectors.

PAHO undertook a lobbying and advocacy campaign in member states to make policy and decision makers aware of these important conclusions. The outputs from these meetings were incorporated into the regional position on disaster reduction at meetings of the Conference Preparatory Committee. The Ministry of Foreign Affairs of Ecuador was a key member of this committee and ensured the visibility of Health sector concerns.

PAHO Directing Council Passes Resolution Urging Safe Hospitals

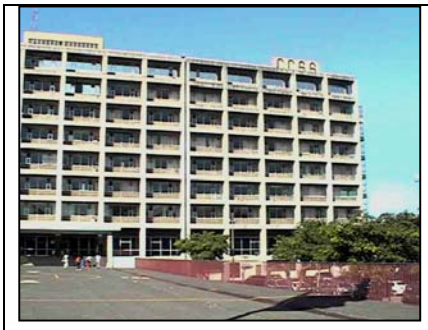
The devastation caused by Hurricanes Frances, Ivan and Jeanne in Bahamas, Cayman Islands, Cuba, Dominican Republic, Grenada, Haiti, Jamaica, and United States of America raised an overwhelming expression of solidarity of PAHO member countries at the 45th Directing Council in late September. The Ministers of Health unanimously approved a resolution "to urge Member States to adopt "Hospitals Safe from Disasters" as a national risk reduction policy, to set the goal that all new hospitals are built with a level of protection that better guarantees their remaining functional in disaster situations, and implement appropriate mitigation measures to reinforce existing health facilities, particularly those providing primary care."

The text of the resolution is online at www.paho.org/english/gov/cd/CD45.r8-e.pdf

Several months before the World Conference, the Ministers of Health of the Americas passed a Resolution (Annex 5) giving the political legitimacy necessary to call for safe hospitals. They urged all Member States to adopt a national policy to ensure that the health sector remains functional in disaster situations. Although it is not feasible to completely reduce overall vulnerability, due to many factors, focusing on one easily-identifiable type of infrastructure helps make the objective achievable and allows nations to demonstrate significant progress. The objective for the health sector at the World Conference was to ensure that this one simple message relating to the importance of health sector disaster vulnerability reduction was included in the final outcome document emanating from the conference. Toward the end of 2004, PAHO/WHO organized three thematic sessions to be held at the WCDR that showcased the achievements and challenges in Latin America and the Caribbean in making their hospitals and health facilities disaster-resistant.

Despite the fact that due to economic situations many countries throughout Latin America and the Caribbean have limited advances in reducing the physical vulnerability of health facilities, there are some important achievements to note. In Peru, the national Institute of Civil Defense is a relatively new actor in this field, and thanks to a new law requiring safety inspections of public facilities, they are now assessing the vulnerability of the country's health facilities. The expansion of responsibility for the safety of health facilities beyond the Ministry of Health is a very positive step and will allow PAHO to capitalize on the work of this sector and export the model to other countries.

Another notable achievement during disaster situations is the additional steps beyond evaluating physical damage that Costa Rica has now implemented. In a parallel effort, the Costa Rican Caja de Seguridad Social (Social Security Institute, which is responsible for the overwhelming majority of the nation's hospitals) now conducts a vulnerability analysis in order to have a sound technical opinion regarding whether to rebuild or relocate facilities. This institution also carried out a quantitative study of the advantages of the cost/benefit of investing in disaster mitigation vs. the damage sustained in earthquakes.



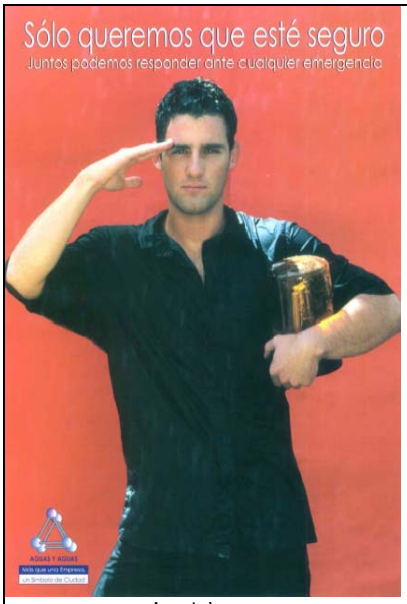
Costa Rica Studies the Cost-Benefit of Disaster Mitigation Measures

For many years, the Caja de Seguridad Social of Costa Rica has been well attuned to the need to ensure that earthquakes do not damage health facilities nor harm patients and staff, and recently has conducted vulnerability studies of its principal health facilities to determine the most at-risk, and plan for their retrofitting. Since then, three hospitals have been retrofitted (the Hospital Mexico, the Hospital de Niños and the Monseñor Sanabria) and three have had to be rebuilt due to earthquake damage.

The results of these efforts yielded a cost/benefit analysis of the two courses of action (the cost figures do not include the political and social cost of lost facilities, which are difficult to quantify). The results of the study (see Annex 6), are used to present effective arguments for the former to decision makers

Four major hospitals in El Salvador were seriously damaged by the 2001 earthquakes and subsequently, studies were conducted to ensure that the investment made in their rehabilitation would be sustainable. On the basis of these studies, the technical specifications for these reconstruction works were prepared in 2004. The Ministry of Health and PAHO played an important role in this process, ensuring that disaster mitigation and prevention aspects were incorporated into these proposals. In the case of PAHO, this was an Organization-wide effort involving the PAHO/WHO Representative (at the highest political level), the PAHO disaster focal point, and the Area on Health Services. At the same time, the joint efforts undertaken during this process reinforced contacts with other institutions that do not work on a routine basis in this field such as the Salvadoran Association of Engineers and Architects, the Coordination Unit of the Ministry of Health (which often has little interaction with the Ministry's Disaster Program) and the national Program for Hospital Reconstruction. The process is by no means complete, and the next step will be for PAHO and the Ministry to work with the government to ensure that the proposed mitigation aspects are actually incorporated into the projects. Within the framework of the "Safe Hospitals" initiative, the success of these efforts could be showcased in other countries as a model to show that it is possible to take advantage of hospital reconstruction.

When it comes to vulnerability reduction of water and sanitation systems in large urban areas of Latin America, it is more and more common to see water service providers themselves promote and conduct vulnerability studies of their infrastructure and finance the interventions necessary to reduce the identified vulnerability. This is particularly true where a regulatory framework exists and where national risk management programs have reached out to a number of sectors, as is the case in Costa Rica, Colombia and Barbados.



Water and sanitation company in Pereira, Colombia pledges to respond to disaster situations

The company that provides water and sanitation services to the city of Pereira, Colombia recognizes that the city is located in a highly at-risk area that is exposed to many natural hazards. For several years they have undertaken sustainable actions to ensure that their beneficiaries receive uninterrupted service or, if not possible, that service cuts are kept to a minimum and to guarantee that water quality remains at a level appropriate for human consumption, even in emergency situations.

The water company manages risks in a number of ways:

- disaster prevention activities (respecting regional planning laws and avoiding building in high-risk areas)
- disaster mitigation (conducting vulnerability analyses of water systems, risk mapping the location of the systems, and incorporating mitigation measures into infrastructure projects)
- disaster preparedness (design, dissemination and application of emergency protocols).

In this way, the water company seeks to comply with its commitment to the community, promoting the slogan: "We want you to be safe – Together we can respond to any emergency."

Unfortunately, the same cannot be said of water service providers in rural areas or smaller cities where many water systems are run by local authorities or the community themselves. In these instances, technicians in charge of keeping the services running often have little knowledge of risk reduction. It would seem almost contradictory that at the local level—the very place where many international aid agencies have concentrated the greatest amount of resources to promote "local risk management"—is where the least progress can be seen in the water and sanitation sector.

Recognizing that PAHO has neither the mandate nor the resources to intervene in the physical vulnerability of water and sanitation services, we limited ourselves to incorporating technical criteria related to risk management in the norms and design codes, the operation and the maintenance of these services during 2004.

In Central America, where a long-standing tradition of regional integration has taken hold, a collective will exists among countries to reduce the vulnerability of their physical infrastructure. Through the Central American Water and Sanitation Forum, subregional agencies have developed the Central American Plan for Vulnerability Reduction in their respective sectors. This sectoral plan officially forms part of the Central American Disaster Reduction Plan, developed under CEPREDENAC and SICA.

Increasingly over the past year, many international cooperation agencies now include a line item for projects related to training, construction projects, health and hygiene, and management aspects for service providers in water and sanitation in Latin America and the Caribbean. However, these same agencies consider disaster risk management an area belonging to the humanitarian divisions of their own agencies and not as a cross cutting development issue. This means that it has been virtually impossible to include aspects of vulnerability reduction in their interventions, and thus, there have been setbacks in obtaining concrete results in both urban and rural areas. PAHO/WHO must work to achieve a horizontal collaboration within these same development agencies so that water and sanitation interventions include aspects of vulnerability reduction.

PAHO and COSUDE join forces on vulnerability reduction in rural water systems

For more than 20 years, the Swiss Cooperation (COSUDE) has worked in rural areas of Peru to build or rehabilitate water and sanitation services, provide community level training and promote community participation in the planning, construction and operation of these systems.

Considering that Peru is highly vulnerable to many different types of natural hazards, and that many of the communities in which COSUDE works are located in these same at-risk areas, PAHO/WHO is working with COSUDE's humanitarian aid programs in this region to incorporate risk reduction into their projects. PAHO/WHO and COSUDE have both assigned resources for PAHO to develop materials that facilitate community participation in the identification of hazards in areas in which water systems will be built. Additional reference material on risk management in rural water and sanitation systems is being prepared and

Six technical or training information products developed in consultation with governments, national professionals, and universities.

Efforts in recent years revolving around the promotion of the topic of disaster mitigation in health facilities are bearing fruit. It is interesting to note that several countries, on their own initiative, have prepared technical material based on the technical message promoted by PAHO. El Salvador, for example, has produced Seismic Norms for the Design and Construction of Health Facilities, Guatemala has developed an instrument to rate its health facilities, Colombia has developed a methodology to evaluate the vulnerability of its built infrastructure, Peru's Ministry of Health looks at the functional vulnerability of infrastructure, while in Chile the Infrastructure Department of the Ministry of Health prepared technical material on non-structural aspects of disaster mitigation.

PAHO's role has been to develop overarching materials to complement national efforts, particularly on those topics that have shown to be of most interest and potential benefit to the countries. These include:

Vulnerability of Health Facilities to Flood Situations: Flooding is the most commonly occurring natural disaster. In the Americas, it affects the widest geographical extension and is the most severe, although conversely, not the most publicized. Recent experience with floods in the Region has revealed the vulnerability of health systems and structures to severe flooding, however, PAHO had produced no technical material on this subject. At the request of countries like Bolivia, Ecuador and Peru that frequently fall victim to this situation, a draft publication was produced and many multisectoral actors were involved in the process of validating the content, including universities and researchers, civil defense, professional associations as well as the health sector. Their local experiences, lessons learned and technical contributions were incorporated into the text. Subsequently, a similar process took place in Central America. The publication, in addition to illustrating potential damage to health facilities from floods and the importance of emergency plans, includes case studies intended to help avoid similar devastating effects in other countries. The inter-country process of finalizing the material was, in itself, a valuable step, and the final product is a technical tool that can be used by local health facilities and/or adapted to specific national situations.

Outside view of the pharmacy showing how the health center floor was raised.

Chone, Ecuador Protects Health Facilities from Floods

The Dr. Amadeo Aizpura Health Center meets the health care needs of 120,000 people in the province of Manabi, an area of Ecuador that annually experiences serious flooding from January through April, when the Chone River overflows its banks. The Health Center had frequently fallen victim to this recurring cycle, with the water sometimes reaching a level of one meter inside the Center. Past floods have damaged sanitation facilities, the roof, equipment, supplies in the stockroom and pharmacies and caused the loss of medical records. Waste water that spilled from cistern tanks increased the vector (rodent and mosquito) population. All in all, the Center was out of service usually for up to a week at a time.

Initial steps were taken to raise the level of the first floor to avoid flood waters and relocate basic services. Priority was given to the pharmacy, stock room and the water tanks, followed by the administrative areas. In the next cycle of flooding, those areas escaped damage, although the rest of the Center was not as fortunate. This prompted authorities to apply to the Ministry of Health for financing to complete the project in the remaining areas of the Health Center. With a relatively modest sum—US$75,000—a permanent solution was found to this recurring problem. This experience motivated other sectors to seek solutions and as a result, the government has initiated a large-scale project to reduce vulnerability city-wide.

Water tank and machine room, raised to above flood levels.

potential relocating of hospital beds, moving critical equipment, defining priorities and contingency plans, coordinating with the hospital network to reduce hospital stays and redirect critical service needs to other non-

Reducing Functional Vulnerability in Health Facilities: Hospitals and health facilities must remain operational in the aftermath of disasters to provide medical attention to the injured and sick. To accomplish this, these complex systems require well-trained human resources, technology in keeping with their level of service, the necessary medical supplies, and basic functioning services. The failure of any of these components (even in the absence of an external disaster) can cause the functional collapse of the health facility. Previous publications looked primarily at the physical integrity of health facilities following disasters. But their functional vulnerability can have equally drastic consequences.

Many health facilities have suffered this fate in the aftermath of disaster situations despite the fact that the structure's physical components remain in tact. Frequently the emergency services will cease to function when they are overwhelmed with injured patients seeking attention. In these cases, if a service network has not been pre-established, if physical spaces have not been planned to deal with a massive influx of patients, and if an emergency plan has not been developed to outline the human resources needed to deal with events or the interruption of basic services, the hospital can cease to function. These scenarios can be problematic in day-to-day situations, but become more acute in emergency situations. Planning for and dealing with these situations is the central premise of this publication.

Other technical materials developed or improved upon during this reporting period:

- A special eight-page supplement to the newsletter *Disasters* (see Annex 7), detailed the significant advances made in many countries in this Region. This information, available in English and Spanish, reached more than 26,000 persons worldwide and was used to reinforce work on the Safe Hospitals campaign. Several years ago, it was decided to cease publication of a separate newsletter on hospital disaster mitigation and incorporate these special supplements into the quarterly newsletter to achieve maximum reach at a minimum cost.
- A pilot website on disaster mitigation has been developed to provide "under one roof" all relevant technical publications, interactive training materials, country reports and case studies, national norms and legislation, and a directory of contacts dealing with the issue in Latin America and the Caribbean. This site was developed because frequently, efforts were being duplicated in an isolated manner, with one country unaware of what another had already produced. The site deals with the crosscutting

issue of disaster mitigation and includes documents that while not specifically on disaster mitigation, can assist in the work of those responsible for policy development and implementation.

- Along the same lines as with the evaluation of damage and needs, PAHO and the WHO collaborating with the Center for Disaster Mitigation at the University of Chile have begun to develop simple, practical guidelines to help countries assess vulnerability in existing health facilities in the face of a variety of natural disasters—earthquakes, floods, landslides, volcanic eruptions, etc. This material will provide the technical basis for decision makers to prepare terms of reference for vulnerability analyses.

-----Mensaje original-----
De: Ricardo Andres Rincon
[mailto:rarincon@aguasdemanizales.com.co]
Enviado el: Monday, February 14, 2005 2:26 PM
Para: osoriocl@paho.org
Asunto: RE: solicitud de información Mitigación de desastres en sistemas de agua potable y alcantarillado

. . . Manizales' has quite a disaster history (you will remember we are located in the coffee-growing region of Colombia, where the 1999 Armenia earthquake occurred and the Nevado del Ruiz volcano erupted in 1985), The results of several vulnerability studies of Aguas de Manizales over the last decade made it clear that we must redouble efforts to be prepared for disaster and provide an effective response in terms of restoring as quickly as possible the vital services of the aqueduct and sewerage system following a disaster. Currently we are particularly interested in creating disaster prevention and response program and a plan of action to address each of the company's infrastructure components.

For these reasons, we are particularly grateful for the material and welcome any assistance PAHO can provide (bibliography, training, technical assistance, etc.).

RICARDO ANDRÉS RINCÓN CANO
Líder de Diseño y Evaluación Técnica

The head of the technical design and evaluation team of the Manizales, Colombia water company, Aguas de Manizales, requested technical training material to reduce the vulnerability of his institution to disasters. Upon receiving, using and disseminating the material, he wrote the following:

New training and educational opportunities related to disaster mitigation provided to at least 1,000 disaster professionals region-wide in consultation with governments, national professionals and universities.

In many countries, PAHO has directly supported the participation of nationals in training activities. Some of these activities have dealt specifically with disaster mitigation issues while others were limited to certain aspects of the topic in the agenda. In Colombia, Ecuador, Argentina (both at the central level as well as in several provinces), Costa Rica and others, the health sector has organized events on their own initiative and sponsored the participants. PAHO provided support in presenting certain topics, together with national experts.

By no means were all of these activities initiated by the health sector. Training opportunities were also organized by universities, professional associations, the military and other groups. One Argentine university included the topic of disaster mitigation in an international congress on Architecture in High-risk Areas and another in Colombia did the same in an inter-American meeting of risk reduction. Showing the support of local universities, Ecuador's College of Civil Engineers organized a seminar on disaster mitigation in health facilities, while Ecuador's College of Geological Engineers held a panel discussion on the topic at one of their conferences. Several associations of engineers and architects have also arranged sessions to share experiences. All of these opportunities have allowed us to capitalize on the work of allied actors, promote knowledge, and gain support for health sector disaster mitigation, all at little or no cost.

As part of the preparatory work for the World conference on disaster reduction, workshops on vulnerability reduction in health facilities were held in Latin America and in the Caribbean, in which participants evaluated national progress in reducing vulnerability and agreed upon common priorities and needs. These opportunities allowed the Region to prepare a common position on the topic which is to be presented at the Kobe Conference. A multisectoral range of experts participated in these regional preparatory meetings.

The strategy used to train technicians and professionals in the water and sanitation sector in disaster risk management is similar to that used in the hospital sector. PAHO piggybacks on their ongoing training programs to include and introduce modules related to disaster preparedness and mitigation, and vulnerability and risk reduction. For the most part, this cooperation has been established through continuing education programs. This helps to ensure sustainability over time, as these continuing education programs are provided by the water sector institutions who are responsible for strengthening the technical capacity of the sector with regard to new realities and challenges facing the water sector—and needless to say, emergencies and disasters are an ever-growing reality that the sector cannot afford to ignore. Bolivia's water authorities have incorporated modules on risk management in water and sanitation services and in training programs developed by the Association of Water Agencies. Universities in Peru have incorporated similar modules in their diploma programs as well.

Training modules on risk reduction incorporated into water sector training

Bolivia's national association of drinking water and sewage providers have joined an organization of similar providers in small and medium sized cities called PROAPAC[1] sponsored by the German aid agency GTZ, to prepare a modular training system for professionals and technicians in the water sector.

The modular system is comprised of 50 courses and includes reference and training materials on a variety of issues pertinent to the water sector, including management, technical operations, financial and commercial management, etc. Within the course on technical operations, two modules on risk reduction have been incorporated—one deals with disaster prevention and the other with preparedness and response of these services in emergency situations.

This initiative contributes to similar human resources development efforts being conducted by PAHO, the Inter-American Association of

Disaster Response

The health sector of the countries of the Region respond effectively and efficiently to disasters and emergencies.

Colombia, 2004

This past year proved particularly challenging in terms of disaster response. Many small disasters plagued member countries, including floods, fires and earthquakes. For the most part, these were handled at the national level and required only limited technical support from PAHO. Other emergency situations required the large-scale mobilization of PAHO's resources. Some crises evolve over time, such as the El Niño phenomenon or the complex emergencies in Colombia and Haiti. These conflict situations occur in a much politicized context that often challenges PAHO's ability to maintain an objective and independent stance while maintaining the long-term perspective required to identify genuine health priorities. Joint efforts with PAHO/WHO country offices and the HQ Disaster Task Force have proven critical.

Sudden-onset disasters, however, present a distinct challenge: few nationals have personal experience on the health impact and subsequent needs following massive natural disasters. Often these disasters follow a pattern that seasoned experts (PED and PAHO staff from other countries) are familiar with. Another reason it is important to have experienced disaster management staff present is that emergencies are highly emotional and politically-charged situations. This can potentially affect how priorities are determined. PAHO has issued a Directive to make the immediate travel of PED staff a standard procedure, and the headquarters task force has placed priority on the rapid mobilization of a significant number of experienced staff members or consultants.

Grenada, September 2004

A series of emergency situations in Haiti in 2004—first the civil strife caused by the departure of former president Aristide in February, followed by severe flooding at mid-year, and finally, the effects of Tropical Storm Jeanne in September—helped focus on the need to strike a balance between emergencies and development.

The 2004 hurricane season was particularly hard-hitting. Hurricanes and tropical storms battered the Caribbean and parts of the U.S., leaving a wake of devastation. Hurricanes Charley, Frances, Ivan and

Jeanne proved to be most deadly, reminding us that disaster preparedness efforts cannot cease. Grenada, Haiti, the Dominican Republic, the Cayman Islands, Cuba, St. Vincent and the Grenadines, Jamaica and the Bahamas suffered the ravages of these storms. Although earmarked funding was mobilized to meet emergency needs, it was our core funding that made the human infrastructure and platform on which the response was carried out possible.

In response to Hurricanes Ivan and Jeanne, PAHO activated a number of its emergency response mechanisms: the Disaster Task Force and Emergency Operations Centers, both at headquarters and in the country offices; the rapid activation of emergency administrative procedures, including the quick purchase of supplies and equipment; the PAHO Disaster Response Team, including specialists from neighboring countries; and the mobilization of funds. Following is a brief summary of some of the actions undertaken by PAHO/WHO in the wake of these hurricanes:

Serious Flooding Impacts Haiti and the Dominican Republic

In June, representatives of the Ministries of Health of the Dominican Republic and Haiti, PAHO/WHO and the Red Cross Societies from both countries held a meeting along the border. This was followed by a workshop to improve joint strategies for future interventions in the border region. The UN system is currently looking into ways to improve inter-agency and inter-country information sharing, analyze logistics capacity on both sides and reinforce prevention and early warning systems.

Haiti

Beginning in late May, heavy rains and flooding affected an estimated 25,000 people in southeastern Haiti who were already living in dire conditions following the recent political crisis. The village of Fonds Verrettes was almost completely washed away by the floods and the lower part of Mapou disappeared under four meters of water. Although roads were destroyed and there was no communication with the affected area, assessment teams managed to arrive fairly quickly, thanks to logistical and helicopter support from the Multinational Interim Force (MIF).

Joint teams from Médecins sans Frontières, Médecins du Monde, the International Committee for the Red Cross and the Federation of Red Cross Societies quickly launched medical and psychosocial interventions, while NGOs such as OXFAM prepared water and sanitation programs. Although the acute emergency phase has now passed, many rehabilitation needs remain. Health centers, homes, and schools need to be repaired or even rebuilt in a safer area, while the population needs assistance to restore their lives and livelihoods.

The disaster revealed weak points in terms of the response: the dependence on the logistics of the MIF, the weak national infrastructure, and the late positioning/deployment of UN and humanitarian actors in the field.

Dominican Republic

The same heavy rains that affected Haiti raised the water level of the Jimaní River; homes were swept away, utility lines cut and rescuers prevented from reaching the hardest-hit regions. Civil defense officials helped to evacuate families to higher ground. The hospital in Jimaní was flooded and patients were transferred to another facility. A few of the potential public health risks from this disaster included changes in existing patterns of morbility, changes in the ecosystem due to vectors, population displacement, and deterioration in drinking water, basic sanitation systems and health infrastructure. The most pressing tasks involved strengthening the capacity of

the provincial health authorities and health centers to deal with potential disease outbreaks common to this type of disaster and implementing health promotion, information, education and communication initiatives directed at the population in temporary shelters and those living in affected areas.

HURRICANE IVAN

Grenada -- 7 September 2004

- Deployment of 25 PAHO/WHO disaster experts (health professionals, epidemiologists, sanitary engineers, supply managers and others) from headquarters and country offices for needs assessment, health sector coordination and the compilation analysis and distribution of information.
- A system was made available to Grenada and CDERA to classify, sort, and inventory humanitarian relief (including the strengthening of the local capacity to manage the system), and allow for the transparent dissemination of information.
- Detailed assessment of damage and repairs needed to rehabilitate the health system.
- Procurement of basic medical supplies, purchasing of primary care medical equipment.
- Support for epidemiological surveillance, water quality and vector control.

Jamaica -- 10 September 2004

- PAHO/WHO staff from the country office in Jamaica and five disaster experts mobilized from other countries as part of a multisectoral assessment team.
- Purchase of essential health supplies and equipment, particularly in the areas of vector control, food safety, sanitation and water quality to prevent water/food borne and vector borne diseases.

Cayman Islands -- 12 September 2004

- Two persons from PAHO/WHO deployed to the Cayman Islands, where operations were being coordinated through the PAHO/WHO Office in Jamaica.
- 25 people trained in the installation and use of the SUMA system for the management of humanitarian supplies.
- PAHO/WHO assisted Ministry of Health to meet principal needs; which include staff (experts in accidents and emergency), water, sanitation and other environmental health aspects, and epidemiological surveillance.

HURRICANE JEANNE

Haiti – 18 September 2004

- Coordination and monitoring of all humanitarian health activities undertaken by the many actors in Haiti.
- Opening of a temporary office in Gonaive.
- Prevention of communicable diseases including water and sanitation: rapid response to possible outbreaks of epidemics, prevention of epidemics of diseases transmitted by vectors (particularly malaria) in the affected areas, disinfection and quality control of drinking water, quick & low-cost repairs to water facilities, and health education.
- Primary health care, essential drugs, restoration of health services including damage assessment of health facilities and quick and low-cost emergency repairs to selected facilities to ensure essential health services, purchase of basic medical equipment and pharmaceuticals from a standard list,

medical supplies (including vaccines and specialized Disaster Kits), and reinforcing PROMESS (the Immunization program for vaccines) in the distribution of supplies at no cost.

- Mobilization of disaster experts (epidemiology, disaster management, water and sanitation) in addition to PAHO-Jamaica office staff.

Dominican Republic – 17 September 2004

- Supporting and keeping the health services network up and running in the affected provinces so that the health needs of the affected population will continue to be met.
- Carrying out vaccination against diphtheria in children and adults in shelters and in areas identified as high risk.
- Operating basic water quality control and sanitation systems to contain disease outbreaks.
- Strengthening epidemiological surveillance, including laboratory diagnosis to quickly detect cases and outbreaks among the population in shelters.

Bahamas – 26 September 2004

- Hurricane Jeanne compounded problems that already plagued the Bahamas following Hurricane Frances earlier that month.
- Provision of technical cooperation to the Ministry of Health Command Center.
- Assistance with rapid needs assessment.
- Mobilization of three disaster experts and the SUMA system for the management of humanitarian supplies.

INDICATOR

Improved assessment of needs which results in more appropriate material and technical aid.

PAHO's first step in the response to disasters is to assess the health situation and need for external emergency assistance. Over the years, this has meant that PAHO staff (at country or regional level) must be present in the field with their Ministry of Health counterparts, and that the diagnosis of what is missing and urgently required be a joint effort by both partners. PAHO's international presence at the disaster site is critical to legitimatizing the Ministry of Health's diagnosis, and to preserving PAHO's credibility in the eyes of its other Member States and the international community at large.

Due to the geographic characteristics and vulnerability of the Caribbean Islands, PAHO established a disaster response team more than 15 years ago, to support the governments as they respond to the public

EDAN in the Health Sector Expanded to Include Assessment Forms

Several months ago, PAHO/WHO published a new manual on Health Damage and Needs Assessment for Disaster Situations to assist health workers to conduct field evaluations in the aftermath of natural disasters.

Due to the high demand in countries in Latin America for additional material, particularly in the context of regional and national response teams, PAHO/WHO, together with a large group of regional experts, has produced a new CD-ROM with a variety of information on the topic, including PowerPoint presentations for training personnel who will conduct health sector damage and needs assessments, assessment

health impact of disasters. This team, composed primarily of experts from PAHO and professionals from countries this region, has been mobilized a number of times. In 2004, it was extensively mobilized during the hurricane season which severely affected many Caribbean countries including Grenada, Jamaica, the Dominican Republic, Haiti, Cuba, the Cayman Islands and the Bahamas.

The Ministers of Health of the Americas, at its annual Directing Council, requested that PAHO strengthen its support for these countries in emergency and disaster situations. As a demonstration of the Organization's commitment, the Director assigned over-the-ceiling funds to carry out three subregional workshops to improve the Organization's ability to manage information, develop project proposals and the development and management of projects, and improve the quality of communication and exchange of information in disasters.

In 2005, it is hoped that the Caribbean's Disaster Response Team coverage will be extended to the entire region. To do this, the internal coordination mechanisms and relations with organizations and national and international counterparts need to be stabilized through selection, integration and training. This team will be the fundamental pillar for the organization's response, and provide a significant contribution to the countries affected by disasters; because they should be able to provide both timely and high quality technical cooperation in the general field camps, epidemiology, health services, water and sanitation, information, communication, logistics, and administration.

Improve transparency and credibility in humanitarian operations.

In mid-2004, ECHO expressed interest in evaluating the two SUMA operations in Haiti and the Dominican Republic, which were undertaken in entirely different contexts. Several agencies participated in the evaluation, including the Joint Logistics Centre of the World Food Program. The objectives were to evaluate the efficiency and effectiveness of SUMA operations following the floods in the Dominican Republic and the political crisis in Haiti and to identify the lessons learned that are relevant to the ongoing development of the global LSS.

In terms of efficiency, evaluators found that the resources allocated to implement SUMA were used efficiently. Using the NGO FUNDESUMA as a mechanism for operational implementation remains

Recommendations from the evaluation of SUMA

There are implications from these lessons in terms of future operations.

- A more substantial and sustained investment (funds and staff) is required in ongoing complex disasters in countries where the government does not assume ownership of SUMA.
- Priority should be given to processing/registering the most valuable (and therefore vulnerable) supplies rather than to worthless (and often bulky) unsolicited donations.
- A web site and other mechanisms to disseminate information should be created as a prerequisite for funding and technical support from PAHO during an actual emergency. The content and timing of the web site should be clearly spelled out.
- Enthusiastic support should be provided to the Red Cross Societies and NGOs interested in including SUMA in their institutional development efforts.
- There should be a differentiation between

very cost-effective compared to other alternatives. The issue was, in fact, that despite the level of resources available, these disasters still would have been incredibly challenging.

The shortcomings in terms of transparency and coordination do not put in question the validity of SUMA as a tool, but rather the commitment of the countries or the humanitarian organizations to share data and communicate.

In the case of Haiti, the chaotic environment and the effort required to stimulate cooperation from the multitude of independent actors who tended to jealously guard information, called for a far more sustained level of investment of resources. In Haiti, the implementation of SUMA had a minimal effect, in part due to the lack of political will and support from the PAHO local office, UN agencies, and national authorities. In seems as though good inter-agency management of supplies was not a priority, in spite of statements to the contrary.

Although the effectiveness of SUMA was recognized by the various users, it does not mean that the deployment of SUMA was effective in achieving the objectives of better technical management of the supplies by the agencies using it, or in improving good governance (coordination, transparency and accountability). In the Dominican Republic, SUMA assisted local authorities in Jimaní, the Red Cross Society, and to a lesser extent, the Emergency Operations Center in managing their own warehouses. There was much room for improvement in terms of data exchange, transparency, and accountability (although accountability was more a political issue rather than a SUMA shortcoming).

After more than 12 years of promoting and implementing the SUMA system in the Americas, PAHO realized there was little chance to expand the current system globally unless a new system was developed with the support of other organizations from the outset. In 2003, PAHO convened a meeting of UN and other humanitarian actors where it was decided to develop a global information system for the management of relief supplies in emergencies. This became the interagency Logistics Support System (LSS). The LSS is a joint effort of WFP, PAHO, UNHCR, UNICEF, OCHA and WHO to facilitate the exchange of information on needs for, and movements of humanitarian supplies complementing agency-specific commodity tracking systems.

The first phase of the LSS development focused on a joint approach to humanitarian supply coordination and software development, based on the experience of SUMA at the national level and the UN Joint Logistics Center (UNJLC) at the international level. Bolstering a joint approach to humanitarian supply coordination is a difficult task, but the achievements have been

The Interagency Logistics System Serves as Coordination Tool

The LSS software (developed on the basis of the original UNJLC and SUMA systems) looks specifically at coordination functions (both at national and international levels) that are not addressed by other commodity tracking systems developed or contracted by larger humanitarian actors. LSS can serve as an inventory control tool for smaller agencies (including national institutions) that cannot afford the cost or human resources required by the existing commodity tracking systems. LSS has two components, a windows–based application that can work as a stand-alone or network module and a Web-based application. The use of either application or a combination of both will depend on the situation in a given emergency and the available resources. LSS

impressive. Representatives of participating agencies formed an Advisory Committee to monitor the design of the software, revise training materials, and obtain their agency's concurrence during project implementation.

FUNDESUMA, a Costa Rican NGO which has implemented SUMA in the Americas for more almost ten years, was contracted to follow up the LSS development and ensure that all of the needed functions were incorporated into the new system. FUNDESUMA has played a key role in ensuring that the needs of countries and NGOs are met in the LSS. UNJLC has played a similar role in putting forward the concerns of operational UN agencies. The Beta version of the software was rolled out in 2004.

Milestones in the development of LSS in 2004 include:

- ☐ Agencies pledge funds and designate an expert as the LSS focal point (January).
- ☐ Software design document approved by agencies (May).
- ☐ UN interagency working group views demonstration of beta LSS version (September).
- ☐ Testing of first release (October).
- ☐ Testing and feedback on 2nd release (December).

The next phase of the development of LSS will unfold over a two-year period and will include testing the system in real events where the political will exists. Training will also begin for human resources in key agencies and in countries worldwide.

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Enhanced PAHO Capacity to Support National Disaster Programs

Support for disaster management in the health sector is mobilized internally and externally.

PAHO's Headquarters Disaster Task Force was created by the Director in the aftermath of Hurricane Mitch (1998). Two dozen health and administrative professionals at PAHO headquarters actively collaborate on this ad hoc Task Force, which is coordinated by PED and mobilized in major disasters.

PAHO Headquarters Task Force during season 2004

INDICATOR

Support given to PAHO country offices and centers to strengthen their disaster management capacity.

The PAHO network of disaster focal points in the country offices continues to be key to bolstering the capacity and legitimacy of the disaster offices in the Ministries of Health region wide. Each PAHO/WHO Representation in Latin America and the Caribbean has a disaster focal point, which is selected from among the professional staff assigned to that country, to plan and execute disaster reduction activities with their national counterparts at country level.

In meetings during 2004, many of these experts expressed concern that, as non-disaster experts, they require additional training and capacity building in the form of specialized courses such as LEADERS for disaster focal points (including sessions on project formulation, negotiation and resource mobilization), and the UN course on early warning. During 2004, ideas were collected and a plan of action was developed to address their needs.

The PAHO disaster focal points were interested in developing a predefined annual work plan with PED based on their work with the disaster offices of the Ministries of Health of each country. As full-time staff members based in these countries, they are well acquainted with the national reality, and therefore, were in the best position to help develop the most effective work plan, including how to increase the involvement of the Ministries of Foreign Affairs in emergency and risk reduction activities and protocols, and to guide PAHO's disaster response in specific situations such as bioterrorism incidents, and cross-border or multi-country disasters. PED already provides many tools to engage and facilitate the participation of this network in disaster reduction activities, including a Virtual Disaster Library of more

than 500 full-text publications on disaster and emergency management, a general and multiple specialized web sites, and is currently working on a collective "virtual" workspace with chat features in order to facilitate communication among countries and PED subregional offices.

A string of hurricanes, beginning with Charley and ending with Jeanne, seriously affected a number of PAHO/WHO Member States in 2004, which required PAHO to mobilize a significant number of staff and other resources of the Organization. It also revealed many institutional strengths and shortcomings.

In order to capture these perishable experiences, PAHO organized a meeting to review what went right and what went wrong from the Organization's standpoint and make recommendations to streamline and improve management and administrative procedures for timely execution of humanitarian projects.

The following is a list of specific recommendations that resulted from the meeting of PAHO/WHO Representatives, field administrators, and headquarters administrative staff (finance and procurement). A comprehensive list and a summary of the meeting are contained in Annex 8.

- A quick evaluation of health sector needs in a disaster-affected area is no longer sufficient. It should be complemented by a small but highly-qualified and specialized PAHO presence in the affected area.
- The PAHO/WHO Disaster Response Team was overstretched by the number of affected countries during the recent hurricane season.
- Several PAHO staff members were unfamiliar with some of the rules, had received contradictory interpretations of these rules, or feared the implications involved in applying the rules.
- Humanitarian donors have specific financial and narrative report requirements that are different from usual projects.
- Disasters and emergency situations occur in the Region every year and all countries are exposed to some type of hazard. However, almost none of the countries' situation analyses consider or include reference to disaster risk.
- Most offices and Areas have reacted very positively when it comes to releasing staff for emergency operations and support, but this is not an established policy.

Strengthened cooperation and links with the disaster community, including subregional, regional and international institutions, civil-military organizations and the Inter-American, UN and Red Cross systems

- Improving Civil-Military Coordination

More than 100 diplomats, professionals and high ranking military officials from Latin America and the Caribbean received training on health, disasters, poverty, and the repercussion for security in a regional training on national and hemispheric threats organized by the International School of Defense. These and other activities developed during 2004 dealt especially with managing the consequences of biological, radiological and chemical terrorism.

- Cross-Border Cooperation

In order to improve the ability of the Mexico-United States border communities to prevent, prepare for, and respond to public health emergencies, PAHO provided technical cooperation to improve across-the-border communication and exchange of information on public health emergency situations between agencies, and to increase skills of public health personnel responsible for responding to public health emergencies on technical and managerial levels. As a result, local early warning epidemiology systems are better connected to national and global systems and the local personnel of the Mexico-United States border agencies improved their knowledge and skills to respond to public health emergencies.

Annexes

Annex 1	Ten-year Plan of Action for Vulnerability Reduction in the Water Sector
Annex 2	New publications and technical materials developed in 2004.
Annex 3	English-language summary of the 2004 evaluation of publications.
Annex 4	Recommendations from the meeting on disaster vulnerability in the health sector of the Americas.
Annex 5	Resolution passed by the Ministers of Health of the Americas at the 2004 Directing Council meeting.
Annex 6	Cost-Benefit study of Disaster Mitigation Measures– Costa Rica
Annex 7	Supplement on disaster mitigation in hospitals – January 2004 *Disasters* newsletter.
Annex 8	Executive Summary of Recommendations from the Workshop on Lessons Learned during the PAHO Response to Disasters -- 2004