

# Disasters

## Preparedness and Mitigation in the Americas



Issue No. 101

News and Information for the International Community

October 2005

### Information Management Offers Humanitarian Agencies Opportunity for Coordination and Exchange



PAHO/WHO, Jenkins

The ultimate goal of information management systems should be to aid in saving lives after disasters.

Managing information is a critical feature of humanitarian work, and agencies working in the field of risk reduction are convinced that the better an organization is able to compile, analyze and disseminate critical information using effective information systems, the more efficient the humanitarian response will be and consequently, the greater the number of lives saved.

With this premise in mind, the Working Group on Risk, Disasters and Emergencies—part of the UN Inter-Agency Standing Committee (IASC) for Latin America and the Caribbean\*—targeted information management as a key component of humanitarian response.

Recently, the Regional IASC commissioned a study to identify tools currently used in Latin America and the Caribbean to manage humanitarian information, with an emphasis on emergency and disaster response. Participating in the survey were the regional IASC members as well as 13 other regional and subregional agencies, five national civil defense organizations and participants from eight other countries. The following highlights of the study present a snapshot of the findings in selected countries and agencies.

*(continued on page 7)*

\* The members of the Regional IASC include the Office for the Coordination of Humanitarian Affairs (OCHA), the International Federation of Red Cross and Red Crescent Societies and the Pan American Disaster Response Unit (IFRC/PADRU), the International Strategy for Disaster Reduction (ISDR), the Pan American Health Organization/World Health Organization (PAHO/WHO), the United Nations Children's Fund (UNICEF), the United Nations Development Programme/Bureau for Crisis Prevention and Recovery (UNDP/BCPR), and the World Food Programme (WFP).

### A Record-Breaking Year



Photo courtesy of Prensa Latina

Wind and waves caused by Hurricane Wilma whip the shoreline of Havana, Cuba in October.

Since 1953, the World Meteorological Organization maintains and updates the lists used to name Atlantic tropical storms. The 21 names repeat themselves every six years unless one is retired due to a particularly catastrophic storm. In 2004, four hurricane names were retired—Charley, Frances, Ivan and Jeanne. (Soon the names to be retired from the 2005 list will be announced and “Katrina” will surely be at the top.)

When the entire list of 21 alphabetic names is exhausted in one season, subsequent storms are identified by the letters of the Greek alphabet. With Alpha and Beta already striking Caribbean and Central American countries, the U.S. National Hurricane Center says that 2005 was the first time this contingency was put into practice. Read more about the very active 2005 hurricane season on page 4 and 5.

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**Pan American Health Organization**



Regional Office of the World Health Organization

## WHO Leads Health Cluster in Response to Pakistan Earthquake

### PAHO Deploys Technical Expertise



Chris Black/WHO

By the end of October, the devastating 7.6 earthquake that struck Pakistan on October 8 had claimed 55,000 lives and injured more than 75,000. The onset of winter weather and the difficulty in reaching many of the injured could cause these numbers to climb. An estimated four million people are in need of health services and more than three million are homeless.

The number of patients evacuated by helicopter to hospitals outside the affected areas has reached 20,000, although the daily number of air evacuations to hospitals has decreased to 80. Of more than 13,000 surgical operations carried out in these hospitals, 46 required amputations. The 28 medical teams mobilized by the Ministry of Health and

WHO to remote areas have now returned to Islamabad. The teams treated more than 100,000 patients during the last two weeks of October.

In addition to WHO experts, PAHO has provided the support of disaster coordination experts, structural engineers, epidemiologists, logisticians, environmental engineers and a supply management team. WHO and the Ministry of Health established a joint Coordination Center; WHO is also the lead agency for the U.N. Health Cluster. Shelter, water and

sanitation are still the main priorities and challenges, as health concerns stem from: a) the shortage of drinking water and sanitation facilities; b) hypothermia and respiratory tract infections due to the lack of shelter; and c) the risk of communicable diseases.

Skin diseases such as scabies and impetigo and acute respiratory infections (ARI) are becoming major public health problems due to the lack of hygiene, the cold weather and inappropriate shelter. By the end of October, the number of trauma cases was decreasing. Of the 1,400 patients in one city alone that sought help from 17 health facilities the first two weeks following the quake, 44% received treatment for injuries; 25% for ARI; and 17% for acute diarrhea. Ministry of Health data indicated that 46% of the patients treated in health facilities

were children under 15 years of age, while nearly 53% are under 21 years of age. Proactive measures such as measles and tetanus immunization continues in Mansehra and Muzaffarabad and has begun in Batagram and Bagh.

## UN and National Authorities Manage Relief Aid in Pakistan



PAHO/WHO

National authorities and the UN are using the Logistics Support System (LSS) in Pakistan to manage the tremendous amount of humanitarian relief arriving in the earthquake-stricken region. The LSS, developed by six UN agencies, inventories all incoming donations and monitors their distribution to warehouses in the affected areas. As is the case with SUMA, the LSS system enhances transparency and accountability in humanitarian operations. But it takes the SUMA system one step further, providing a common platform for sharing information among agencies to avoid duplicating efforts and to improve coordination. The system has been translated into Urdu (the local language) to facilitate the operation. The coordination cell at the Health Emergency Operation Centre at the WHO Office in Islamabad is serving as the reception and dissemination point of health-related information.

### For the latest on the health response to the South Asia Earthquake:

<http://www.whopak.org/disaster/> WHO Country Office in Pakistan.

<http://www.emro.who.int/eha/pakistan.htm> WHO's Eastern Mediterranean Regional Office, headquartered in Cairo, Egypt and responsible for Pakistan.

<http://www.who.int/hac> WHO headquarters, Department of Health Action in Crises (HAC).

# Other Organizations

Other Organizations

## New Web Site Piques Children's Interest

"ABCDesastres" is a new web site where young students and their teachers can learn about natural disasters and risks. The Spanish-language web site is divided into a number of sections. In *¡Quiero aprender!* (Let's Learn) youngsters will find a wide range of information on disasters and risk, including a glossary of terms. They will also be able to pay a virtual visit to many regions of the world as they search for data on risks and natural disasters, and explore links to web sites of a variety of organizations working in the field. A section called *¡Quiero Hacer!* (Let's Do It) contains activities that students can take part in to learn more about disaster prevention and mitigation. Visit [www.abcdesastres.ceride.gov.ar/index.htm](http://www.abcdesastres.ceride.gov.ar/index.htm) to take a tour of the site.

ABCDesastres was created by the Regional Center for Research and Development in Santa Fe, Argentina, with the support of the Pan American Health Organization (PAHO), the U.N. International Strategy for Disaster Reduction (ISDR) and UNICEF.



## National Organizations El Salvador

National organizations - El Salvador

### Agencies in El Salvador Discuss Importance of Social Communications in the Face of Disasters



El Salvador's tallest volcano, the Ilamatepec volcano, had been dormant since the early 20th century until it erupted on 1 October, causing the evacuation of several thousand people and triggering a red alert in surrounding areas. Government authorities were already in a heightened state of alert from the eruption when Hurricane Stan hit several days later and caused devastating mudslides. These disasters prompted government agencies, including the Ministry of Health, to organize several disaster communication workshops with the media, social communicators and public institutions. PAHO/WHO supported these efforts.

Both journalists and social communicators recognize they have an important role to play in getting reliable information to an at-risk public. Journalists pointed to the importance of receiving the right type of information, data and statistics in a timely manner and ensuring that the information is confirmed and attributed to reliable sources. They also committed to improving their knowledge about natural risks and strengthening relationships with national disaster agencies.

Social communicators in public institutions pledged to develop strategies to deal with emergency situations, such as developing a data bank of health disaster information. To ensure follow up, a social communication plan was prepared to support the response and recovery phase of the mudslides and the alert phase of the Ilamatepec volcano, with a role for all three groups: the mass media, health disaster response teams and at-risk communities. The plan should improve the ability of health institutions in El Salvador to communicate effectively about disasters. One of the expected long-term benefits of these efforts is that both the health sector and communities will be better able to identify risks and vulnerabilities and take appropriate measures to deal with the health effects of disasters.

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# Member Countries

For the last several years, experts have predicted that hurricane seasons will become more season has topped the record with 23 named storms. Katrina, Rita, Stan, Wilma, Alpha

## Katrina & Rita

### United States

**H**urricane Katrina was one the worst natural disasters in U.S. history. It made landfall near New Orleans, Louisiana on 29 August 2005, with sustained wind speeds of approximately 200 km/hour. As Katrina submerged 80% of the city under water, the U.S. Department of Health and Human Services quickly declared a public health emergency. Katrina affected the U.S. states of Alabama, Louisiana, Mississippi, Georgia, and Florida, leaving more than 1,000 people dead and almost 500,000 affected. Damage to housing and infrastructure is estimated at more than US\$25 billion. Two months after the hurricane, thousands remain displaced, many of whom are not planning to return to their damaged or destroyed homes.



Almost four weeks after the onslaught of Katrina, Hurricane Rita dealt another devastating blow to the same area, causing flooding to reoccur in New Orleans and other low-lying areas of Louisiana. This time, however, the U.S. state of Texas suffered the direct brunt of the storm. The fact that several million people chose to heed evacuation warnings may have contributed to the reduced death toll.

## Stan

**A**lthough Hurricane Stan only reached category 1, it struck Central America during the rainy season in early October, drenching already saturated areas and causing devastating landslides, especially in El Salvador and Guatemala.

### Guatemala

**F**ifteen of Guatemala's 22 departments were affected by the rains and landslides caused by Stan. The official death toll is 669 people, with most of the deaths the result of landslides that buried entire communities. Currently, 844 people are still missing and feared dead and an estimated 80,000 had to seek refuge in shelters or with relatives because their homes were damaged or destroyed.

A PAHO/WHO team installed the LSS/SUMA system to manage humanitarian relief supplies. Several training workshops were held to familiarize national staff with the new features of the Logistics Support System. The disaster affected several key systems including water and food supply; sanitation; housing, building and road infrastructure; health services; and communications. Losses have been estimated at more than US\$21 million.

### El Salvador

**E**l Salvador was also hard hit by Stan. Sixty-nine people lost their lives, and at one point more than 50,000 were in temporary shelters. The situation was compounded by the eruption of the Santa Ana (Iamatepec) volcano a week earlier. Most of those displaced by the floods and landslides have returned home, but some 12,000 still remain in temporary shelters, primarily because of volcanic activity.

Accordingly, the number of cases of dengue fever rose sharply following Stan.

One of the communities affected by Stan was Villa Centenario, a model complex of "healthy" housing, built in the wake of Hurricane Mitch with funds from several donors, including PAHO. The high winds, heavy rains and mudslides damaged the outdoor latrines, septic tanks and roads. In addition, a bridge connecting Villa Centenario to nearby cities was also destroyed, isolating the village from health services and needed supplies.

### Mexico

**H**urricane Stan made landfall south of Veracruz, Mexico on October 4, with winds of 80 miles per hour, before weakening to a tropical storm. The heavy rainfall caused widespread and severe flooding and landslides that affected thousands of people, primarily in Mexico's Yucatan Peninsula. Although there was serious damage and loss of infrastructure, few lives were lost due to widespread evacuations prior to Stan's arrival. The southern state of Chiapas was the most affected, 6,000 homes were damaged and 13,645 persons sought refuge in temporary shelters. In the state of Veracruz, 22 health centers were damaged by the storm.

### Nicaragua

**T**he heavy rainfall from Stan—which only had tropical storm strength in Nicaragua—caused flooding and landslides in the Departments of Esteli, Chinandega, and Jinotega, causing more than 800 people to be evacuated to temporary shelters. Nicaragua was struck again by Hurricane Beta in late October.

active and destructive. The 2004 season lived up to that prediction, but the current hurricane and Beta all left a path of destruction across the Caribbean, Central America and the U.S.

## Wilma

### Mexico

The Yucatan Peninsula which had already been affected by Hurricane Emily in July was dealt an even worse blow by Hurricane Wilma, which caused extensive damage to the tourist infrastructure around Cozumel and Cancun. On October 25, Wilma caused severe flooding, leaving more than 300,000 people displaced in the city of Cancun alone. More than 1 million people were affected and 7 dead as a result of the storm.

### Cuba

Wilma was a slow-moving storm, battering Cuba with heavy rains for 10 days. As Wilma became a full-fledged hurricane, it affected Cuba's southern coast and the municipalities of Pinar del Rio and Havana. High tides caused water to penetrate 500-700 meters inland, saturating the soil with salt water and affecting crops and vegetation.

Authorities worked around the clock to restore electric power in order to minimize interruptions to drinking water systems. More than 600,000 people were evacuated prior to the storm.

Additionally, the health sector deployed medical teams to the most affected areas to treat casualties, maintain services and carry out epidemiological surveillance to prevent disease outbreaks.



### United States

Wilma's high winds caused widespread damage to the southern part of Florida. In addition, the rain and storm surge caused flooding in the Keys. Thousands of people were left homeless, as the storm damaged or destroyed hundreds of mobile homes and high-rise condominiums. In the end, three deaths were attributed to the storm. Many parts of the state were left without electricity, which also affected telephone communications, and the distribution of gas and drinking water. The citrus crops, which had already been affected last year by hurricanes Charley, Frances and Jeanne, once again suffered heavy losses.



### Bahamas

After leaving Florida's eastern coast, Hurricane Wilma passed over the northwestern Bahamas on 24 October as a Category 2/3 storm, with wind speeds in excess of 115 mph. The storm directly affected the islands of Grand Bahama and Bimini and brought with it flooding and a storm surge. One death was reported in Grand Bahama as a result of the storm. Several "at risk" communities, located in the western part of Grand Bahama were also hard hit. Sadly, these same communities were affected by hurricanes Frances and Jeanne in 2004. The Rand Memorial Hospital on Grand Bahama suffered minor damage but remained functional.

## Alpha & Beta

### Haiti

Tropical Storm Alpha—the 22nd named storm of the season—passed over the island of Hispaniola on 22-23 October with intense rains in the mountainous region along the border of Haiti and the Dominican Republic. In Haiti, the strong rains produced localized floods throughout most of the country. Thirteen people died and many houses were damaged or destroyed. Several main roads were closed or left with very limited access. A health center in Anse-a-Pitre was affected by the floods. This is a recurring problem, as the center is located in a vulnerable area of the village.

### Nicaragua

Hurricane Beta hit Nicaragua as a Category 2 hurricane, but was quickly downgraded to Tropical Storm. It caused heavy rains along the Atlantic Coast, but less damage than anticipated. As a precaution, several communities were evacuated, including a hospital where services continued throughout the storm. At another location, backup staff was in place to ensure continued services and basic sanitation. In the end, most health problems reported were related to respiratory diseases.







## Hospital Disaster Planning COURSE Instructors' Course WORKSHOP

A new version of *Hospital Disaster Planning* includes material to develop the course and a new instructors' training module.

<http://www.disaster-info.net/planeamiento/>



lent tool to facilitate and guide those responsible for hospital management and hospital disaster preparedness committees.

The CD also contains the **first edition of the training workshop for instructors** of the Hospital Disaster Planning Course. It includes the methodology, instructions, exercises and materials needed to implement the course. At the end of this workshop, participants will be able to teach the course by following the lesson plans; they will also be able to prepare and present a model hospital disaster preparedness plan. Both the course and the instructors' training workshop use an interactive teaching method, the same technique used by the Office of

U.S. Foreign Disaster Assistance (USAID-OFDA). The participants' contributions and practical experiences are incorporated to enhance both exercises.

**T**his training material (Spanish only) contains an **updated and expanded second edition of the Hospital Disaster Planning Course**. It provides the methodology and the content to prepare hospital plans that take into account a hospital's response capacity and its vulnerability to specific hazards. This material is an excel-



## Disaster mitigation for drinking water and sewage systems

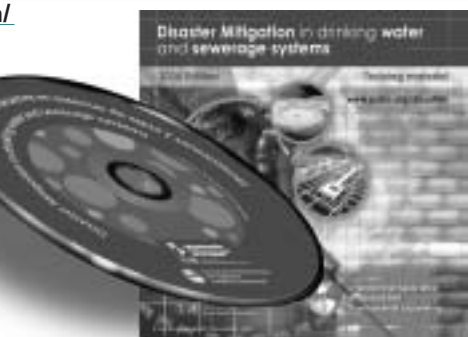
<http://www.disaster-info.net/watermitigation/>

**T**his CD contains a variety of training and public awareness materials on disaster mitigation in drinking water and sanitation systems. It promotes and facilitates the incorporation of disaster mitigation measures into this type of infrastructure to reduce damage and ensure the post-

disaster maintenance of service. It has been prepared for use by professionals and technical personnel involved in the design, construction, maintenance, and management of water and sanitation systems.

The CD-ROM includes PowerPoint and HTML presentations that support the training. It also includes technical publications to assess a system's vulnerability and basic mitigation measures to address the most common natural hazards in the Americas. Also on the CD:

- Posters, suitable for reproduction, on disaster mitigation in water and sanitation systems.



- Links to web sites of agencies and institutions working in the field.
- Videos on the El Niño phenomenon and the Orsi Water Supply System Project that illustrate these concepts.
- The software necessary to view and use these materials.



## Information Management for Disasters

(from page 1)

### Defining information management systems

For the purposes of this study, an information “system” was defined as a set of elements that are organized into a pre-defined and accepted structure so that they relate to one another. Once these elements are organized into a “system,” it can be used to generate knowledge about complex issues including those related to emergencies and disasters, thus providing a platform for decision making and action.

A variety of information management systems already exists in Latin America and the Caribbean and currently are being used to support disaster preparedness, response and risk reduction initiatives, as well as post-disaster recovery and reconstruction processes. However, the organization and structure of these systems vary widely. Several factors such as an institution’s mandate, its disaster policies and available resources and staff experience level all have an effect on how an agency views risk management. In light of these variations, when regional agencies were polled and asked to define an information management system, their answers were complex.

Some agencies tended to associate information management systems with computer-aided or automated tools. Other institutions, however, thought of information management systems as coordination and/or response mechanisms. Although perceptions differed, one common conclusion stood out. Even in organizations that have an information management policy and structure, the end users were not sufficiently familiar with them and consequently found it difficult to identify the system’s necessary components.

The findings of this study confirm that, when it comes to information management systems, humanitarian and emergency agencies are operating under many different conceptual frameworks. What’s more, the multiple objectives of these systems have

not been broadly discussed and debated in an effort to improve the effectiveness of humanitarian operations. Therefore, key steps must be taken, including agreeing on a common definition and objectives, identifying the basic components of a humanitarian information management system and assessing whether or not these actually help save lives in emergency situations.

### Taking information exchange a step further

According to the results of the survey, the impact of emergency information management systems in the Americas has never been formally measured. Humanitarian agencies commonly invest a tremendous amount of resources in a disaster response, with each agency organizing activities according to its mandate and using proprietary information systems. There is obvious coordination among most actors in the field, yet the real impact of the invested post-disaster resources has not been evaluated.

This drawback comes at a time when agencies recognize that the exchange of information is critical to determining the effectiveness of response operations. Yet in both crisis situations and times of peace, the type of information exchanged has been, for the most part, operational in nature; that is, related to programming issues or emergency activities, assistance needs, funding, deployment of human resources, etc. The actual management of information is still quite poor, despite advances in technology. In fact, although many institutions have complex information systems and standardized definitions of topics such as damage assessment or epidemiological data collection, they have been unable to go one step further in terms of collecting data, establishing norms, defining indicators or standardizing terminology.



To a large extent, this has occurred because information management systems continue to be centralized, in most cases at a headquarters’ level, without reflecting the regional perspective needed to make them effective. Although in theory most institutions demonstrate a willingness to share information, in practice, their formal and informal information policies have made them take a cautious approach.

### Some final observations

It is important to note that a wide variety of information tools exists in Latin America. The quality, credibility and type of information they provide makes them very valuable to both internal and external users. However, many agencies stated that they would prefer a regional system for managing humanitarian information.

Using the tools already in place in the Region is key to developing an information management system that will respond to users’ expectations. No single system can contain all the information required to make decisions, reduce the impact of disasters and save lives. What it can do, however, is build and strengthen ties among humanitarian actors who generate information about the issues and processes involved in disaster and risk management.

*This article was prepared by guest author Fiorella Mackliff, an independent consultant who carried out the study on disaster information management systems in Latin America and the Caribbean at the request of OCHA’s Regional Office in Panama. For more information, write to Gerard Gomez, Director of OCHA’s Regional Office at [gomezg@un.org](mailto:gomezg@un.org).*

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**Disasters: Preparedness and Mitigation in the Americas** is the Newsletter of the Area on Emergency Preparedness and Disaster Relief of the Pan American Health Organization, Regional Office for the Americas of the World Health Organization. The reported events, activities and programs do not imply endorsement by PAHO/WHO, nor do the statements made necessarily represent the policy of the Organization. The publication of this *Newsletter* has been made possible through the financial support of the Division of Humanitarian Assistance, Peace and Security of the Canadian International Development Agency (HAPS/CIDA), the Office of Foreign Disaster Assistance of the U.S. Agency for International Development (OFDA/AID), and the Department for International Development of the U.K.

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October 2005

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