

DISASTERS



PREPAREDNESS AND MITIGATION IN THE AMERICAS



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News and Information for the International Disaster Community

October 1995

Editorial

Bridging a Gap Between Two Cultures: Military and Humanitarian

In the last few years, military forces have played a significant, if not a major, role in international humanitarian assistance operations. In industrialized countries, assigning the armed forces the responsibility for disaster relief is an increasingly popular proposal.

There are, no doubt, attractive aspects to this proposal. A splendid operational capacity, already "paid for", can solve logistical nightmares and provide a sense of order and efficiency in the chaotic aftermath of natural disasters. Unfortunately, however, there is seldom enough focus on the short- and long-term costs and benefits of using foreign military assets in disaster relief. By "benefits", we mean those received by the disaster victims and the agencies/institutions charged with meeting humanitarian needs.

Recent events in the Caribbean, namely the Haitian crisis and this year's hurricanes, offer an opportunity to review foreign military participation from a regional and public health perspective. Three *regional* factors are critical in this analysis:

- Disaster situations in Latin America and the Caribbean requiring humanitarian assistance are more likely to be caused by natural disasters where security is not the issue.
- Many countries in the Region are just recovering from a long and traumatic period of local

military dictatorships, making the use of military assets much more sensitive.

- In the health sector, priority in Latin America and the Caribbean is on developing national self-reliance and solidarity among neighboring countries.

These regional factors suggest that a single global policy for using military assets cannot be crafted for the different situations found in Africa, Europe, Latin America or the Caribbean.



Advance cooperation and dialogue are needed between foreign military and civilian agencies charged with meeting humanitarian needs in disaster situations. At tradewinds '95, a Caribbean multi-hazard exercise, civilians and military forces joined in the planning and execution of this mass casualty simulation.

Photo: Pluut, PAHO/WHO

The Haitian Experience

During the three years of political conflict in Haiti, PAHO/WHO assumed the major role in providing international health assistance. At the time of the UN-approved armed intervention of a coalition to reestablish constitutional order, PAHO and other humanitarian agencies had high expectations for military

support for their activities.

Progressively, PAHO/WHO and its health partners realized that when security is an issue and the military expects to face a potentially hostile environment, humanitarian or civilian affairs receive only token attention. The humanitarian world eventually grasped the fact that the military is designed for military operations! Humanitarian

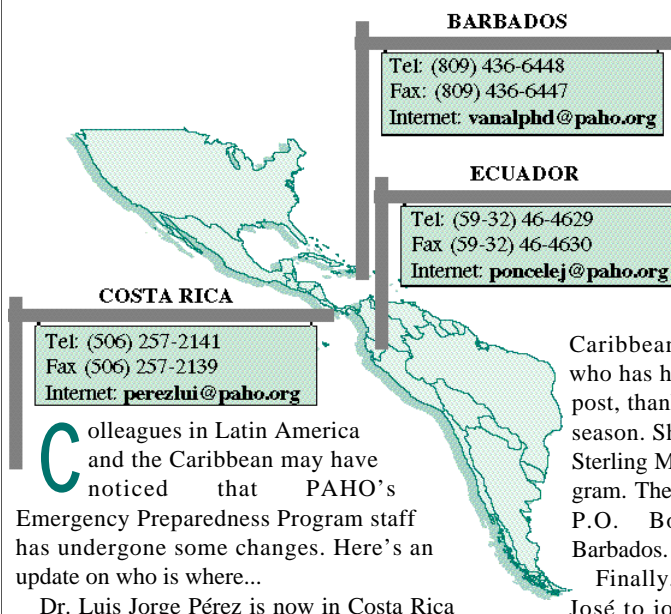
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News from PAHO/WHO

PAHO Staff on the Move



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Colleagues in Latin America and the Caribbean may have noticed that PAHO's Emergency Preparedness Program staff has undergone some changes. Here's an update on who is where...

Dr. Luis Jorge Pérez is now in Costa Rica where he coordinates disaster preparedness and prevention programs with authorities in Central America. You can contact him c/o PAHO/WHO, Apartado Postal 3745, San José, 1000, Costa Rica.

Representing the program in South America is Dr. Jean Luc Poncelet, who

moved from the Barbados office to Ecuador. His address is c/o PAHO/WHO, San Javier 295 y Francisco de Orellana, Quito, Ecuador.

We would like to welcome the new subregional advisor for the Caribbean, Dr. Dana Van Alphen, who has had a busy initiation to her post, thanks to this year's hurricane season. She is being assisted by Dr. Sterling Mungal, also new to the program. They can be reached c/o CPC, P.O. Box 508, Bridgetown, Barbados.

Finally, Dr. Hugo Prado left San José to join our staff as Regional Advisor in Washington, replacing Dr. José Luis Zeballos (now the PAHO/WHO Representative in Mexico). Dr. Prado's address: c/o PAHO/WHO, 525 23rd Street, N.W., Washington, D.C. 20037, USA; Tel: (202) 861-4325; Fax: (202) 775-4578; Internet: disaster@paho.org □

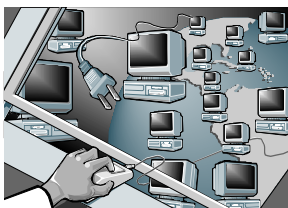
the Center's services and publications, and 15 issues of the BIBLIODES series (selected bibliographies). If you are looking for information on earthquakes, volcanoes, health effects of disasters, disaster legislation, environmental health or mental health and disasters, technological disasters, education and disasters, or schools and more, visit the Regional Disaster Documentation Center through PAHO and the WWW. You can browse through the entire collection on line. The address of PAHO's Web site is <<http://www.paho.org>>. The above information is also available through gopher at: <<gopher://gopher.paho.org>> □

SUMA Mobilized after Hurricane Luis

Among the first to arrive in Antigua after Hurricane Luis was a team equipped to activate SUMA (the Supply Management Project). Volunteers from Caribbean and Central American countries sorted and inventoried incoming relief supplies, providing national authorities with information on what was arriving from donors. The Caribbean Disaster Relief Unit, made up of military units from the region, provided essential logistic support in managing the incoming relief supplies. SUMA was also deployed in St. Kitts. In Curaçao, a SUMA team sorted and classified supplies *prior* to their shipment to St. Maarten, and in the words of the disaster coordinator there, helped to avert a "second disaster."

It was evident from these operations that national authorities increasingly recognize the advantages of SUMA in managing relief supplies. Training, particularly at this year's Tradewinds exercise in St. Kitts, helped to increase regional acceptance of SUMA. For more information on the SUMA project, please contact PAHO/WHO, Emergency Preparedness Program, 525 Twenty-third St., N.W., Washington, D.C. 20037, USA; Tel: (202) 861-4325; Fax: (202) 775-4578; Internet: disaster@paho.org □

PAHO Disaster Information on the World Wide Web



Disaster professionals know that disaster management is information management. Now the disaster community has one more source of information. PAHO, which for years has produced and distributed a wide variety of disaster preparedness and mitigation training materials, has inaugurated a new World Wide Web site on the Internet. Here is a sample of the information you can find: What does PAHO's Emergency Preparedness Program do? How can I contact the sub-

regional offices and special projects? When disaster strikes, who is in charge in each country in Latin America and the Caribbean and how can I contact them? What guidelines are available for post-disaster donations? What audiovisual and print training materials does PAHO publish? What is the SUMA Project? The Web site also includes pointers to other electronic sources of disaster information such as the IDNDR Demonstration Project HazardNet, the G7 Project Gemini, the University of Wisconsin's Disaster Management Center which offers distance learning over the Internet, and others.

One of the most visited sections of the WWW site offers information about the PAHO/WHO Regional Disaster Documentation Center in San José, Costa Rica. Here, users can find a description of

Other Organizations

International Emergency Settlement Conference: New Approaches to New Realities

Today, more than 40 million people are displaced by natural and human-made disasters and many reside in "emergency settlements." The Disaster Management Center at the University of Wisconsin is sponsoring an international conference from 15 to 19 April 1995 in Madison, Wisconsin, to seek and provide solutions to international issues of emergency settlement, including: political, security, civil and human rights aspects; basic assistance needs; and social, psychological, economic, and developmental issues. There are limited funds available to support participation of citizens from developing countries who are working in a field related to emergency settlement, and are fluent in written and spoken English. Please contact Don Schramm, Disaster Management Center, Dept. of Engineering Professional Development, Univ. of Wisconsin-Madison, 432 North Lake Street, Madison, WI 53706 USA; Tel:(608) 262-5441; Fax: (608) 263-3160; E-mail: dmc@enr.wisc.edu. □

ECHO's Pilot Projects in Disaster Preparedness

In the first half of 1995, the European Community Humanitarian Office (ECHO) financed 18 disaster preparedness projects in Africa, Asia, Latin America and the Caribbean, and the former Soviet Union totalling nearly US\$3 million. Certain of these projects have a multiplier effect in that technology or approaches used in one situation can be applied in other disaster-prone regions. Following are some of the 1995 ECHO projects funded in Latin America and the Caribbean:

- *Building hazard-resistant features into Central American schools.* Assists ministries of education to incorporate natural hazard reduction techniques into school construction, reconstruction, maintenance, and repair programs in Belize, Costa Rica, Guatemala, Honduras, and Panama.
- *Risk assessment in Costa Rica, Ecuador, and Jamaica.* Boosts efforts by national emergency management offices to map vulnerable areas, particularly regarding the impact of disasters on

In Memory of Fred Cuny

Frederick C. Cuny disappeared in Chechnya in April 1995 along with two Russian physicians, while carrying out an assessment of humanitarian needs. After months of searching, his family now presumes that he was killed during that mission. Fred did much to reform how international agencies and disaster managers respond to large-scale emergencies. He collaborated as a consultant with PAHO in the early years of its disaster preparedness program, in particular in the area of managing international relief assistance. *Disasters and Development*, published by Cuny in 1983, is a now-classic examination of the interrelation of relief and development processes. Cuny's honest and outspoken approach to disaster management will be missed. □

agriculture, infrastructure, energy, and transportation.

- *Safer roads and bridges in Central America and the Andean countries.* On average, approximately 80% of national transportation budgets in these countries goes to repair and maintain roads following damage from floods, earthquakes, landslides, and other natural events. This project will analyze current use of natural hazard reduction techniques in road, bridge and overpass design and construction.
- *UNDAC—A network of experts in Latin America.* The UN Department for Humanitarian Affairs has created a Disaster Assessment and Coordination Team (UNDAC) consisting of experts from the Region who can assess and coordinate action in case of disaster. The ECHO grant will provide the Team with necessary equipment to ensure their effective deployment.

The Organization of American States, UN/DHA, and others are working with ECHO as the implementing partners for these projects. For more information on ECHO activities, please contact Mr. E. Thielmann, ECHO, Rue de la Loi 200, Office 3/276, B-1049 Brussels, Belgium; Fax: (32 2) 29-54-551. □

IDNDR Informs



This newsletter, published by the Regional IDNDR Office for Latin America and the Caribbean, provides current information on disaster prevention projects and partnerships in the Americas. To subscribe or to contribute, please write: IDNDR Regional Office, Box 3745-1000 San José, Costa Rica; Fax: (506) 257-2139; Tel: (506) 257-2141. □



Member Countries

Chile: International Seminar on Medical Response

From 24 to 26 April 1996, the Health Services of Viña del Mar in Quillota, Chile, will host an international seminar on the health sector's response during disasters. The focus of the seminar will be to improve preparedness by updating disaster plans, and to facilitate interinstitutional and intersectoral coordination both in Chile and among other countries in the Region. The Ministry of Health of Chile, National Emergency Office (ONEMI), and PAHO/WHO are co-spon-

sors of the event. For details about the conference, please contact: Dr. Pedro Olivares Tirado, Hospital de Quilpue, Quillota, Chile; Tel: (56-32) 910-445/910-436/910-947; Fax: (56-32) 921-875/926-837. □

Mexico: Symposium on 1985 Earthquake

In September, Mexico's National Medical Academy, Ministry of Health, and PAHO/WHO organized a special symposium to commemorate the 10th anniversary of the 1985 earthquake, which cost an estimated 10,000 lives and devastated the infrastructure in Mexico City. The response of the health services to that disaster was remarkable. But the collapse of two major hospitals and serious damage in others showed that preparedness is not enough, and that investment in disaster *prevention* is necessary.

The symposium focused on how health and other sectors responded during the event, and what hospitals have done in the last ten years to lessen their vulnerability to natural hazards and to maintain a high level of preparedness. Participants also examined how the earthquake affected the development and strengthening of such institutions as SINAPROC (the National Civil Protection System). □

Peru: Safeguarding Water Supply in Case of Disaster

Peru has made significant progress in applying disaster mitigation measures to their water supply and treatment facilities. The National Program for Potable Water and Sewerage reports that vulnerability analysis is underway in 20 of the country's water districts. Disaster mitigation and environmental protection measures are being included in service rehabilitation plans in 50 of the country's cities, including Lima. The program is being carried out in cooperation with the Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS). □

(cont. on pg. 5)

Central America: Emergency Response to Dengue



There is a growing threat of a full-fledged epidemic of dengue fever and its more dangerous form, dengue hemorrhagic fever (DHF) in Central America. According to PAHO's Communicable Disease Program, some 24,000 dengue cases have been reported this year in Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama, as well as 352 cases of hemorrhagic dengue. Cases have also been reported in Mexico, Brazil, Venezuela, and areas of the Caribbean.

Dengue and the potentially fatal DHF are transmitted by the bite of the *Aedes aegypti* mosquito. Dengue hemorrhagic fever begins with acute febrile symptoms, accompanied by hemorrhage and eventual shock. It predominates in children, and the case-fatality rate can be as high as 15-20%. While no vaccine or specific treatment is available for dengue, simple sanitation measures can get rid of the mosquito's breeding places.

Rapid control of the current outbreak of dengue and DHF requires a different approach to that used thus far. Short-term emergency response is needed, using mechanisms normally organized for disasters. An example of such a response is that of Cuba, which was faced with a serious outbreak of DHF in 1981. The epidemic was brought under control with disaster relief measures that mobilized the nation's Civil Defense and launched emergency campaigns to eliminate mosquitoes and breeding sites.

Managing this and similar emergencies demands immediate response by the affected country and emergency humanitarian assistance from the international community and donors. Funding is now being sought to support national prevention and control programs, which include clean-up campaigns, community education, spraying, treatment of water containers with larvicide, and wide ranging surveillance activities. The United Kingdom has committed US\$300,000 to PAHO for control measures in Central America, and special funds will be earmarked for different countries. □

Latin American Conference on Chemical Accidents

The First Latin American Conference on Chemical Accidents will take place in Buenos Aires from 22 to 25 November 1995. It is being sponsored by Argentina's Center for Chemical Emergency Information (CIQUIME), the WHO Program for Chemical Safety, and PAHO/WHO. The topics to be covered include risk analysis, response, national and international programs for preventing chemical accidents, and transport of haz-

ardous materials. A simulation of a chemical accident will take place during the Conference. For more information, please contact: CIQUIME, Av. San Pedrito 220, (1406) Buenos Aires, Argentina; Tel: (541) 612-6912/613-1100; Fax: (541) 613-3707; e-mail: cique!postmaster@psarg.sld.ar □

Brazil: Society for Emergency Medicine

The recently established Society of Disaster and Pre-hospital Emergency

Medicine in Brazil has 70 physicians as members and representatives from 15 of Brazil's states. The Society's main objectives are to encourage interchange with other specialists in the field and promote teaching emergency health management at the university level. For more information, please contact Dr. Luiz Henrique Horta Hargreaves, SOBRAMDEP, SQS 108-K406, 70347-110, Brasilia, DF, Brazil. □

Hurricane season '95 . . . relearning lessons

The 1995 hurricane season has been a frenetic and destructive one, testing response capacity at local and international levels. We've nearly run through the alphabet this year: Hurricanes Erin, Felix, Iris, Luis, Marilyn, Opal, Pablo, and Roxanne caused widespread destruction in the Caribbean and Gulf of Mexico.

From 4 to 6 September, Hurricane Luis caused serious damage in Antigua and Barbuda, St. Kitts and Nevis, Dominica, and the Netherlands Antilles islands of Anguilla and St. Maarten. Public water systems were knocked out. The most important hospitals and majority of health centers on Antigua and St. Kitts suffered extensive damage. With roofs blown off or damaged, their power and communications systems were disabled, and medical equipment and supplies ruined. It is unacceptable for health services to continue to be paralyzed in such situations; the damage to the hospitals and health centers was mostly preventable. How often do we have to relearn the same lessons drummed into us by Gilbert and Hugo?

Following this year's hurricane season, the following steps should be taken:

- Enact legislation to *enforce* use of building and maintenance standards in health facilities such as those in the Caribbean Uniform Building Code (CUBiC) and others. CUBiC is praised by many but no one has made it law;
- Prepare case studies on the impact of recent storms on health facilities;
- Ensure strong Caribbean participation and presentation of these case studies on the impact of hurricanes at the International Conference on Disaster Mitigation in Health Facilities (Mexico City, 26-28 February 1996);
- Give urgent attention to coordination between the military and civilian sectors (see p. 1). An after-action meeting will be called by PAHO to discuss this matter among all players.

Hurricane Hugo underscored the importance of *collective* Caribbean response. The message of the PAHO video, "Facing Disasters in Small Countries" (available from this newsletter's editor), still holds true: no small-island health sector has the necessary critical mass to be self-sufficient in case of national disaster. There is no unaffected area to call for reinforcements; essential staff may not report to work, justifiably concerned with the security of their own homes and families. Positive examples of regional cooperation can be seen in the case of nurses mobilized by PAHO to Montserrat from neighboring islands to assist populations displaced by the eruption of the Soufriere volcano, and Caribbean SUMA volunteers who traveled to islands affected by Luis to sort and inventory relief supplies. □



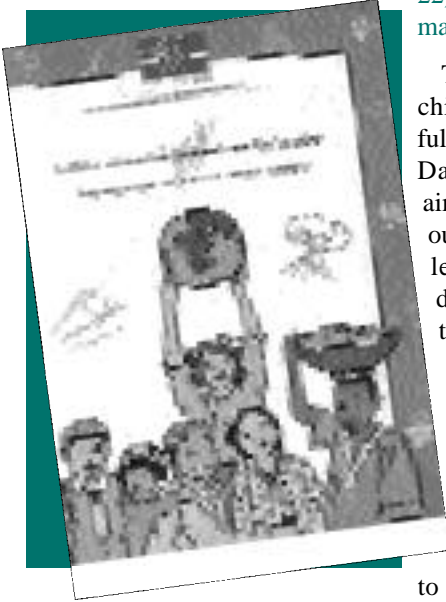
During Hurricane Luis the roof, windows, doors, power and water supply were all lost in the building that housed the Antigua Emergency Operations Center and offices of the Ministry of Health, pictured here.

Photo PAHO/WHO, D. Taylor



Review of Publications

Learning About Natural Disasters: Games and Projects for You and Your Friends (Available from the IDNDR Secretariat, UN/DHA, Palais des Nations, 1211 Geneva 10, Switzerland; Tel: (41-22) 798-6894; Fax: (41-22) 733-8695; e-mail: dhagva@un.org)



The IDNDR Secretariat produced a children's booklet with lively and colorful illustrations for the 1995 International Day for Natural Disaster Reduction. It aims to build a "culture of prevention" in our societies, by encouraging children to learn at an early age the links between development, environment and disasters.

It emphasizes contributions that children can make to their communities by participating in activities to protect their community from natural hazards; international exchange, applying ideas tried by other children around the world; and encourages children to complement activities in existing community programs or school curricula. The IDNDR Secretariat would like educators, youth groups, NGOs and those working in disaster management

programs to test the booklet with children and write them with their impressions. □

Disaster Planning for Health Care Facilities by James A. Hanna, Third Edition, 1995. 374 pp. (Available in English for US\$69.95 from the Canadian Hospital Association Customer Services, 17 York, Suite 100, Ottawa, Ontario K1N 9J6, Canada; Tel: (613) 241-8005; Fax: (613) 241-9481.)

The expanded edition of this book provides comprehensive and practical information on how to plan for most situations faced by health facilities in the event of natural or manmade disasters. A sample of topics included are: the planning phase both for a health care facility and its surrounding community; triage and evacuations; structural and nonstructural considerations for earthquake preparedness; continuity of pharmaceutical and food services and communications; ambulance services. It also addresses events such as hazardous material spills on-site, bomb threats, power outages, and abductions. This is an excellent resource for any hospital staff member or disaster manager. □

Announcement

International Conference on Disaster Mitigation in Health Facilities Mexico City, 26-28 February 1996

PAHO/WHO is organizing an International Conference—Disaster Mitigation in Health Facilities—that will take place in Mexico City from 26 to 28 February 1996. The purpose of the Conference is to recommend measures to reduce the vulnerability of health sector infrastructure to risks from earthquakes and hurricanes, and to formulate a regional policy on disaster mitigation for health facilities in Latin America and the Caribbean. Guidelines will be presented for developing cost-effective interventions, comprehensive national programs, and national hospital mitigation plans. The Conference will bring together a cross-sectoral group of specialists and national officials to address technical and policy issues.

Co-sponsors of the Conference include: the Ministry of Health and Ministry of Interior of Mexico, the Regional Office of the International Decade for Natural Disaster Reduction (IDNDR), World Bank, Economic Commission for Latin America and the Caribbean (ECLAC), and Organization of American States (OAS).

The Conference will be conducted in both Spanish and English. Interpretation will be provided for the plenary sessions.

There will be no conference fee, but participants are expected to cover their own expenses. On 29 February, optional field visits will be organized.

For more information please contact: Pan American Health Organization, Emergency Preparedness Program, 525 Twenty-third Street, N.W., Washington, D.C. 20037, USA, Tel: (202) 861-4324; Fax: (202) 775-4578; e-mail: disaster@paho.org □

assistance was not part of the mission statement of the coalition in Haiti. As a consequence, formal structures such as the Civilian Military Operations Center, put in place after considerable delay, proved to be less than effective in Haiti.

The problem has been one of a lack of specific dialogue between two cultures—the humanitarian agencies and the military. Some dialogue did take place in Washington and New York but did not actually involve the international partners delivering assistance in Haiti. The discussions never addressed what should *not* be expected from the military.

Another issue of importance is that within the military itself, its own public health or preventive medicine departments had limited influence. Participants in public health affairs in Haiti were specialized surgeons or clinicians, keen to learn but unfamiliar with primary health care and public health in the developing world.

Hurricanes in the Caribbean

In September 1995, Hurricane Luis and then Marilyn devastated several islands in the Caribbean, some of them British, Dutch or U.S. territories. The armed forces of these three industrialized nations were mobilized to provide humanitarian assistance.

In the case of Montserrat, British forces had a long-standing relief operation serving approximately 50% of the population, since the island was also under threat of a volcanic eruption. In the independent States affected by the hurricanes, the Regional Security Services (RSS), a collective Caribbean defense force, played a leading role.

In most cases, similar strengths and weaknesses were noted. On the positive side, there was effective delivery of materials to the disaster site. As in a military operation, this process was orderly and disciplined; the logistics were generally impeccable.

On the other side, three similar problems to those seen in Haiti occurred, with

the exception of the operations coordinated by the RSS:

- *Limited input from local health authorities.* These authorities are simply not part of the military chain of command. This problem was not limited to the health sector; national agencies or relief institutions often had little part in the operational decision-making process nor access to detailed information (such as the contents of incoming medical shipments). As a result, the relief effort tended to address problems as perceived by military planners, not as experienced by victims. One example is the mobilization of surgical units for mass casualties rather than mobile units for routine essential health care.

Donor countries face an internal contradiction. Their development agencies support programs and projects that strengthen local capacity, yet at the critical moment, their armed forces assume full operational control leaving local health officials trained for the occasion without a meaningful role. The SUMA project—in which a local capacity for sorting, inventorying, and classifying incoming relief supplies had been painstakingly nurtured—is an example. All supplies, including health supplies, were handled under exclusive military supervision, with little chance for civilian feedback, information, and accountability.

- *Displacement of other sources of assistance.* It is not military style to carve out a niche for itself in the framework of the international humanitarian effort. Inevitably, the military tends to assume full responsibility, substituting a monolithic response for otherwise multifaceted and consequently flexible civilian assistance. NGOs and other international agencies are left with scant access to transport and communication facilities; even those international agencies active in Caribbean territories before the hurricanes did not fare much better.
- *Cost.* Military logistic support may cost

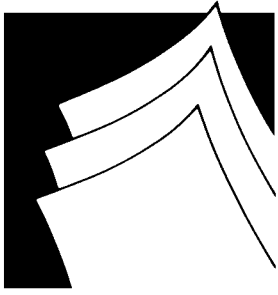
up to seven times more than civilian or private sector operations. This is of concern for development and humanitarian agencies, which are acutely aware that the immediate needs being addressed by military intervention only represent the tip of the iceberg.

Encouraging signs in both cultures, military and civilian, suggest that these problems are being recognized. For example, the U.S. State Department and the Marine Corps organized a frank and productive debate in April 1995 (Emerald Express '95). PAHO's position¹ and the recommendations reached by the public health working group at this Conference remain valid for future military interventions:

- Encourage a greater role for preventive medicine or public health departments in military humanitarian assistance.
- Organize joint civilian/military exercises or seminars; civilian and military should go through the actual process of joint planning and execution as in the Tradewinds exercise organized by the RSS in the Caribbean, something quite distinct from inviting "observers" from the other side.
- Conduct advance dialogue at policy and technical levels, not limited to Headquarters, between those actually implementing both military and civilian operations.

With the recent disaster experience in the Caribbean, the time has come to review the lessons learned, and to initiate the overdue dialogue between indispensable partners—the local health authorities and health agencies on one side, and the health services of the armed forces likely to intervene in the Region on the other. PAHO/WHO accepts the challenge of creating a bridge between these two cultures. □

¹ Claude de Ville de Goyet, "The Use of Military Medical Assets in Humanitarian Assistance," Emergency Preparedness Program, PAHO/WHO, Paper presented at Emerald Express, April 1995. Available from the editor of this Newsletter.



Selected Bibliography

The articles listed in this section may be of interest to health professionals and others responsible for disaster preparedness, mitigation and relief. They have been reproduced and recently added to the collection of articles available from the Editor of this Newsletter. A complete list of reprints is available upon request. Please quote the reference code listed to the left of the publication title when requesting articles.

- Q.5** Dynes, Russell R., "Disaster reduction: the importance of adequate assumptions about social organization," *Sociological Spectrum*, Vol. 13, pp. 175-92, 1993.
- Q.6** Basikila, Paul, et al., "Public health impact of Rwandan refugee crisis: what happened in Goma, Zaire, in July, 1994?," *The Lancet*, Vol. 345, pp. 339-44, February 11, 1995.
- Q.7** Staes, Catherine, et al., "Deaths due to flash floods in Puerto Rico, January 1992: implications for prevention," *International Journal of Epidemiology*, Vol. 23, No. 5, pp. 968-75, 1994.
- Q.8** Gaydos, Joel C. and George A. Luz, "Military participation in emergency humanitarian assistance," *Disasters*, Vol. 18, No. 1, pp. 48-57, 1994.
- Q.9** Axelrod, Corinne, et al., "Primary health care and the midwest flood disaster," *Public Health Reports*, Vol. 109, No.5, pp. 601-5, 1994.
- Q.10** Dorn, C. Richard, et al. "Veterinary service and animal care emergency operations plans," *JAVMA*, Vol. 203, No. 7, pp. 1005-7, October 1993.

Disasters: Preparedness and Mitigation in the Americas is the Newsletter of the Emergency Preparedness and Disaster Relief Coordination Program 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 Canadian International Development Agency (CIDA) and the Office of Foreign Disaster Assistance of the U.S. Agency for International Development (OFDA/AID).

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Upcoming Meetings

January 1996

A seminar and workshop on "Disaster Prevention in Guatemala" will be convened in Guatemala City from 31 January to 2 February 1996 to commemorate the 20th Anniversary of the 1976 earthquake in that country. Monitoring seismic activity, seismic resistant construction, and aspects of disaster response will be addressed. The meeting is being sponsored by the School of Engineers of Guatemala, the National Emergency Committee and CEPREDENAC. For

more information please contact Mr. Enrique Molina, Colegio de Ingenieros de Guatemala, 7 Ave. 39-60, Zona 8, Guatemala City, Guatemala; Tel: (502-2) 713-195; Fax: (502-2) 724-224; e-mail: seismo@sunguat.sun.com

April 1996

The Government of the Netherlands, International Union of Local Authorities, the European Union, and UN/DHA are sponsoring the 2nd International Conference, "Local Authorities Confront-

ing Disasters and Emergencies" in Amsterdam from 22 to 24 April 1996, to provide an opportunity to discuss joint approaches to response and review recent developments in emergency planning and crisis management. For information, please contact: Eurocongres Conference Management, Jan van Goyenkade 11, 1075 HP Amsterdam, Netherlands; Tel: 3(0)20/ 679-3411; Fax: 31(0)20/673-7306. □