PRESENT AND FUTURE OF THE PAN AMERICAN HEALTH ORGANIZATION

DISASTER MANAGEMENT ACTIVITIES

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1. INTRODUCTION

Natural Disasters

In the last twenty years, natural disasters have claimed the lives of some 3 million people in the world, injured another 800 million, and have caused immediate damages in excess of 23 billion dollars. Unfortunately, developing countries appear to be the most affected.

Research carried out by the Higher University Council of Central America reveals that between 1960-1991, more than 70 natural disasters _ including earthquakes, hurricanes, floods, droughts, volcanic eruptions and landslides _ were reported in this subregion. When we place this high incidence of natural disasters in the context of the Region's precarious financial climate, the substantial and direct economic impact becomes even more alarming.

The 1980s represented a "lost decade" for Latin America, as a significant number of countries saw their earnings decrease to the levels of one, two, and even three decades ago. The amount of money lost to disasters often exceeds the total annual gross income of an affected country.

The economic impact of disasters can affect the public health of a country in three main areas:

- it can have a direct effect on the health infrastructure and equipment, including water supply and sewerage systems;
- its effects can be indirect, disrupting the provision of health services;

- secondary effects can become apparent after a disaster, including a reduction in personal or national income, an increase in the inflation rate, problems with foreign trade, higher financial expenses that result in a decrease in resources available for health and water services, or less access to these services by individuals.

The following table shows the overall economic effects of selected natural disasters in Latin America and the Caribbean:

DISASTER	LOCATION	DATE	TOTAL LOSSES (millions)
Earthquake	Mexico	1985	US$ 4,337
	El Salvador	1986	US$ 937
	Ecuador	1987	US$ 1,001
Volcanic eruption	Nevado del Ruiz	1985	US$ 224
Floods - Drought	"El Niño" Peru, Ecuador, Bolivia	1982-83	US$ 3,970
Hurricane Joan	Central America	1988	US$ 870

Source Economic Commission of Latin America and the Caribbean (ECLAC)

Technological Disasters

In the last decade, the health sector of many countries in Latin America and the Caribbean has made great strides in preparing to face sudden-impact disasters. But facing the threat of *technological* disasters _ which in the coming years may prove just as significant _ is another matter. Technological disasters are no longer the "exclusive privilege" of developed countries. They are leaving their mark in many developing countries as well. Unorganized industrialization is becoming a common pattern in most developing countries. The lack of appropriate regulation of the production, transport, use and disposal of hazardous materials opens the door to the potential for technological disasters. The tragic

examples of the Bhopal chemical disaster in India and the 1987 radiation accident in Brazil attest to this. Technological emergencies, such as the Chernobyl nuclear accident, also demonstrate that a disaster in *one* country can become the problem of *many* countries when it is impossible to contain the effects to the actual disaster site. While much of the world has been spared catastrophes of this magnitude, the potential is ever present and increasingly, the health sector will be called upon to play a key role.

Manmade Disasters

Disasters that are *manmade*, in the form of social unrest, conflicts or war, bring with them consequences that are every bit as grave as those caused by technological and natural events. Look at Central America in the last decade:

- More than 160,000 Central Americans died in wars or civil violence during the 1980s; several hundred thousand were injured. Their short- and long-term treatment presents a challenge to the medical services, a challenge they are not always prepared to face.

- More than two million Central Americans _ up to 15% of the total population _ fled their homes and villages. As many as half a million homeless and often destitute refugees crossed the borders into neighboring Central American countries, adding to the *already* heavy burden those nations carried. Although a large number of PVOs (NGOs) are joining efforts with UNHCR, the Red Cross and PAHO/WHO to provide immediate and long-term assistance, the considerable need for technical cooperation and coordination in this region is obvious.

Cholera, absent from the Americas for more than a century, has become the hemisphere's newest manmade disaster. Indeed, it is the result of human neglect of the infrastructure and of sanitation services. Generally, epidemics in Latin America and the Caribbean are not considered disasters. However, the cholera outbreak quickly assumed all the characteristics of a large-scale emergency situation, and in many instances, it has exceeded the capacity of local and national resources to deal with it _ a textbook definition of a disaster.

Although national civil defense systems and health disaster coordinators have been instrumental in managing the operational aspects of both preventive and response measures, the process has underlined the need for Prevention, Mitigation and Preparedness (PMP) activities to address some of the weaknesses.

2. MANDATE OF PAHO AND ITS PMP PROGRAM

The Pan American Health Organization, as the health agency of both the United Nations and the inter-American system, is the international institution with a mandate for all PMP activities related to the health sector.

PAHO focuses its responsibility on assisting the health sector to reduce the impact of disasters, both direct and indirect, on health. This is not limited to hospitals and medical authorities, but also includes water and sewerage systems and other areas where the health of the population is affected.

PAHO/WHO has now diversified its strategy of support to Member Governments. Up until the mid 1970s, PAHO's participation was essentially in *response* to specific emergencies. After 1977, in the aftermath of the earthquake in Guatemala, greater emphasis was placed on health sector *preparedness* for natural disasters. Later, technological and manmade disaster preparedness would also be covered. With the beginning of the International Decade for Natural Disaster Reduction (IDNDR) in 1990, PAHO and other agencies worldwide have progressively shifted the emphasis of their activities in order to achieve a better balance between *prevention and mitigation* on the one hand, and *preparedness* on the other.

In the case of prevention, mitigation and preparedness activities in the health sector _ that is government, private sector, NGOs, communities, and others _ emphasis will be placed on hydrometeorological disasters; geophysical disasters; medical and health issues; natural/ manmade/environmental disasters; multi-hazard preparedness support; and private sector support.

3. ASSETS OF PAHO

- PAHO has a long history of providing reliable, cost-effective PMP cooperation to the countries of the Americas as part of their development activities.

- In addition, the Organization is widely accepted and recognized both regionally and internationally.

- The Organization has access to decision-making levels both inside and outside the health sector in Latin America and the Caribbean.

- PMP activities are implemented by the Organization's entire professional staff, under the coordination of and with support from the specialized disaster reduction program.

- Disaster reduction activities have been linked with the leading PAHO/WHO initiatives in the region: Bridge for Peace in Central America; Development of Local Health Services; and Democracy through Health.

4. CRITERIA FOR PAHO COOPERATION

- The services and technical cooperation of the Organization are accessible to all countries in the Region exposed to disasters.

- Priority is oriented to those countries, or provinces, states, institutions, etc. with:

  - the highest vulnerability, or where the *need* is greatest nationally;

- the greatest capacity to absorb the technical cooperation, or where the national *contribution* ensures a multiplier effect.

- already existing multi- or bilateral projects that complement PAHO's actions in fields unrelated to health (for instance, OFDA activities in priority countries).

5. OBJECTIVES

- To assist the countries of Latin America and the Caribbean to reduce the health consequences of natural and manmade disasters (loss of lives, injuries, economic impact on the health sector, etc.) as part of their development strategy.

  - to assist the public and private sectors of Latin American and Caribbean countries to adopt appropriate *prevention and mitigation* measures to minimize the health impact of natural or technological disasters.

  - to strengthen the preparedness of the health sector to respond to all types of disasters promptly and efficiently, including technological accidents and situations resulting from conflicts.

- To broaden the knowledge of key professionals and decision makers about prevention, mitigation and preparedness (PMP) activities and garner their support.

- To assist WHO to promote prevention, mitigation and preparedness globally through the lessons learned and material developed in the Americas.

6. FUTURE STRATEGIES AND ACTIVITIES

6.1 General promotion of prevention, mitigation and preparedness

The declaration of the 1990s as the International Decade for Natural Disaster Reduction (IDNDR) is expected to provide the opportunity for mass promotional and awareness campaigns to gain support for *pre-disaster* preventive measures in Latin America and the Caribbean. Activities under this heading will include:

- Promotional/motivational multisectoral workshops, which will focus on *preventive* measures and will particularly target the Ministry of Planning, finance officials, engineers, architects and health decision makers. These workshops will deal with the social and economic importance of prevention and mitigation in the planning, design and upgrading of the health infrastructure (medical and sanitation), and the prevention of chemical or other technological accidents.

- Workshops with the mass media, NGOs, chemical industries and other areas of the private sector, which will aim to stimulate the support of these sectors and channel their resources toward community education and joint activities in the prevention and mitigation of natural and manmade disasters.

- The production of promotional PMP material, which will include various tasks such as developing national or regional written promotional material, producing short videos for general broadcast.

- An inventory will be made of technological/scientific PMP material relevant to Latin America and the Caribbean, and it will be broadly disseminated. The regional Disaster Documentation Center based in San Jose, Costa Rica will provide the framework for this activity.

- Selected material produced by the IDNDR, OFDA, CEPREDENAC, CENAPRED, CISMID and other agencies, will be translated into Spanish, Portuguese and, as the need arises, into French. Portuguese-language material will be produced in Brazil at a low cost and will continue to be made available to Portuguese-speaking African countries, in coordination and consultation with WHO, the IDNDR, UNDRO and LRCS.

6.2 Health Sector Risk Assessment

In most countries, sufficient health care facilities already exist to meet foreseeable needs. These facilities will be used for some time to come. However, it is likely that many of these existing facilities are vulnerable in varying degrees to natural hazards. From experience, there have been cases where the implementation of relatively inexpensive measures has realized significant improvements in structures.

The additional cost necessary to make buildings disaster-resistant, and thus reduce risk, can be considered as a kind of insurance. Comparative studies have demonstrated that the increased cost associated with a fully code-resistant building compared to the cost of a building where the Code has been ignored, may range between 1-4% of the cost of the building. If the cost of hospital equipment is included, the percentage would be much lower, since equipment costs can be as high as 50% of building costs.

In addition to serving as a model for other countries and regions of the world, the objectives of this activity are to:

- Build a significant level of community awareness, from the grass roots level to decision makers, using a low-technology risk mapping approach developed and tested jointly with WHO and bilateral agencies in Central America and Peru.

- Ensure that the level of risk is considered in socioeconomic development projects. PAHO will take the necessary precautions to bridge the gaps that frequently exist between multi-risk mapping and vulnerability analysis carried out by scientists, on the

one hand, and decisions taken by planners, developers and other national authorities on the other.

6.3 Health Sector Vulnerability Studies and Mitigation Measures

The natural hazards that threaten Latin America and the Caribbean and the special vulnerability of the health sector to disaster situations justifies specific programmatic action under this component.

Too often, natural disasters are ignored in the planning and design of hospitals and related facilities _ even in areas where the risks are well known. These facilities must be able to withstand the impact of earthquakes, hurricanes, and other disasters and not themselves pose an added threat to their occupants. But several factors impede this. Structurally, many hospitals in Latin America are old; some date from Spanish colonial times. Others are contemporary, modern facilities but the lax application of anti-seismic building codes makes their ability to withstand earthquakes questionable.

Aside from their structural integrity, hospitals and health infrastructure must also remain operational. Hospitals that are unable to be used in the critical post-disaster period, due to structural or non-structural damages, may, indirectly, claim an unknown number of lives.

Retrofitting existing vulnerable health sector structures has been proven to be both feasible and cost effective, as was shown by the manner in which the Hospital Mexico, Hospital de Niños, and Hospital Sanabria resisted the December 1990 earthquake in Costa Rica. These were the results of a study commissioned by PAHO on this subject. Similar investments are being made by a few other countries such as Mexico, Chile, and Colombia.

Other infrastructure, such as water supply and sewage systems also have a direct impact on public health and they too must be included in a sectoral vulnerability analysis. Particularly in major urban areas in Latin America, countries place a high priority on assessing the structural and operational vulnerability of their environmental health infrastructure.

Activities to raise general public awareness will be complemented by a comprehensive, coordinated effort to sensitize and guide planners and developers about the potential health and financial benefits of including PMP strategies in their decision making. This is in follow up to the recommendations adopted at the regional meeting of Latin American countries on the IDNDR, held in Guatemala from 9 to 13 September 1991.

6.4 Incorporation of PMP into economic development

The damages caused by the impact of natural disasters can be devastating in economic terms, particularly the costs associated with restoring health care facilities, which can run into the millions of dollars. This becomes particularly critical at a time when many countries are experiencing adverse economic pressures.

On the other hand, governments *are* receiving funds for major capital projects in the service sectors, mainly in the form of grants and loans from international agencies. In particular, funding for capital projects for the restoration and retrofitting of hospitals are being made available to many countries.

A major consideration when executing these capital projects must be to ensure that any construction and retrofitting of facilities are done in such a way that they not only achieve their primary health objectives, but also have a minimal adverse impact on the future earnings and recurrent expenditures of governments. This can only be accomplished by utilizing design and construction techniques for health facilities which will enable them to have a long viable life, ensuring that they are adequately resistant to damage by any type of hazard, and can be cost-effectively and affordably maintained and managed.

6.5 Multi-hazard Preparedness

- Strengthening of Institutions

The level of preparedness in the health sector is directly proportional to the effectiveness of a country's post-disaster response. Therefore, a well-prepared health sector

is critical to reducing the number of lives lost. It is also the area in which many countries have made the greatest progress. Almost every country in Latin America and the Caribbean has formally established some type of specialized, national program which is responsible for formulating plans, training first responders and health workers, coordinating the health response in case of disasters and liaising with other institutions. Although in some countries the national program is self-sufficient and requires little if any outside support for routine activities, in other countries, minimal cooperation is still needed to ensure that the Program is strengthened in the difficult economic or political environment.

6.6 PMP and Technological Disasters

PAHO's long-term PMP objectives include:

- assisting countries to *prevent* the occurrence of chemical or radiation emergencies that affect public health;
- improving the capability of the health sector to respond promptly and efficiently when an emergency occurs;
- providing technical support to an affected country in the assessment of health needs and the coordination of the international response after a technological emergency affecting public health.

6.7 Management of Donated Relief Supplies

The overwhelming logistical problems caused by large-scale donations of medical and other supplies pose a real management challenge for health and relief authorities in disaster-stricken countries. Problems arise for several reasons. Often, information on the technical usefulness of the donated supplies is not available. In addition, most countries lack both the manpower to manage the drugs and supplies and a mechanism to quickly inform donors of their receipt. To address these issues, PAHO will carry out a five-year pilot project to

develop an intercountry capacity to rapidly and efficiently inventory and classify donated goods at their point of entry.

Specifically the objectives of this Project include:

- To activate and mobilize this regional capacity in the aftermath of a disaster and train nationals on-site to manage this function and assume full operational responsibility.

- To improve the coordinate of the local health response by providing timely report on drugs and equipment donated by the international community.

- To speed up the distribution of **key** supplies by distinctively marking them on site.

- To provide the disaster-affected country with a mechanism to immediately inform donor countries and agencies on receipt of their donations.

PAHO will mobilize this capacity in the aftermath of a disaster and train nationals on site to assume full operational responsibility. Other organizations outside the health sector could easily extend this pilot project to cover the entire spectrum of relief supplies globally. The Project Document is attached in Annex 4.

6.8 Cooperation with other regions

Although PAHO's mandate is limited to providing technical cooperation to its member countries, the impact of the investment made in this region has extended far beyond this hemisphere. Increasingly, PAHO is called upon to provide technical support and training material to other WHO regions, particularly to Africa. And at the same time, the relatively low frequency of major disasters on the scale of the nuclear accident in Chernobyl or the gas intoxication in Cameroon, makes this exchange of experiences among continents very beneficial for this Hemisphere.

7. CONCLUSION

Promoting and supporting PMP in the health sector of more than 30 nations and territories is a complex and lengthy process, and the level of progress we achieve will vary from country to country. Recent disasters have allowed the international community to note the striking differences between affected countries with well-prepared disaster coordinators and effective prevention programs in the health sector and those without them. The result of no *national* PMP program in the health sector: serious damages and loss of lives; a disruption in medical, water and sanitation services; inappropriate information on needs; delays in formulating priorities; and a shift _ usually too late _ to rehabilitation and reconstruction. At the time of the disaster, these problems cannot be offset by improved coordination at the international level.

The increased efforts of PAHO, with the continued support of and other agencies, will help to achieve a stable and significant improvement in the status of PMP in the health sector of Latin America and the Caribbean.