**PREPAREDNESS FOR CHEMICAL DISASTERS**
**SITUATION IN LATIN AMERICA**
***PED Subregional Representatives***

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# 1. INTRODUCTION

In order to evaluate the current situation of preparedness in the countries of the Region of the Americas with regard to preventing and dealing with chemical accidents, PAHO/WHO, through the Coordinator of the Program on Emergency Preparedness and Disaster Relief for South America, sent this Collaborating Center a report containing information on the topic for El Salvador, Costa Rica, Nicaragua, and Venezuela.

It should be noted that the lack of a scheme for forwarding the information, coupled with different types of response to these situations, made a detailed diagnostic study impossible. Therefore, the real, eventual needs of the countries may not have been efficiently analyzed.

Analysis of the information revealed a lack of understanding of the concept of chemical accidents in certain cases, since instances of chronic pollution were mentioned, which should have been examined separately. Notwithstanding, some aspects requiring more in-depth discussion were identified on the basis of the available information to permit steps to be taken to improve the current systems.

# 2. CURRENT SITUATION IN THE COUNTRIES

## 2.1 El Salvador

El Salvador, through its National Emergency Committee, has a three-stage Plan to Control Chemical Pollution among its sectoral contingency plans. The Plan covers the period before (preventive), during (corrective), and after (recuperative) the emergency.

The document analyzed describes the plan and discusses the three stages, which cover the basic measures to be adopted and the respective entities responsible. It was observed that the plan provides little detail on the specific measures to be applied and little on integration among the numerous institutions participating in each of the programmed activities.

One of the difficulties identified concerned water pollution from industrial and household waste and from pesticides in rural areas. Although this serious problem is not directly related to an emergency situation and is therefore beyond the scope of the present report, it should be dealt with specifically as a separate matter.

## 2.2 Costa Rica

While accidents in Costa Rica in recent years have not been catastrophic, their incidence has been increasing annually.

Some of the difficulties noted are:

- lack of materials for instructors;
- lack of cooperation by industry;
- lack of interest among institutions, due to a lack of continuity in the activities; and,
- coordination problems among the participating entities.

The emergency health care system in Costa Rica is under the National Emergency Commission's Department of Prevention and Mitigation. The Hazardous Substances Sector is organized into three groups, as follows:

- Response: Fire departments, Red Cross, Ministry of Health, and Social Security;
- Research and training: Universities, PAHO, Ministry of Health, and the private sector;
- Regulatory: Ministries of Health, Public Works and Transportation, Economy, Industry and Trade, Labor, and the private sector.

There is a regulation governing the transport, handling, and storage of hazardous substances and a specific executive order governing surface transport.

The government currently organizes seminars on emergency response for the industrial brigades responsible for prehospital management and emergency preparadness of hospitals; the seminars do not cover the cleanup of chemical spills or environmental control of chemical accidents.

## 2.3 Nicaragua

The information on Nicaragua confirms the existence of legislation and regulations governing environmental pollution and also of specific draft legislation on pesticides. Notwithstanding, there is no mention of specific systems for dealing with chemical emergencies, since the legal entities involved are responsible for aspects related to chronic environmental pollution.

Implementing the regulations is a significant problem in this country, due to current attitudes in the companies and to the lack of technical means for promoting a culture of prevention.

## 2.4 Venezuela

Venezuela submitted the most detailed report on the topic of chemical accidents, documenting the existence of 1,025 industries and 15 major accidents in the period 1981 to 1995. Human error can be cited as the leading cause of these accidents.

Venezuela has an Emergency Plan for Medical Care in the wake of chemical accidents, as well as other specific plans, such as:

- National Petroleum Contingency Plan;
- Plan for the Control of Chlorine Leaks;
- Plan for Emissions of Toxic or Hazardous Substances;
- Emergency Plan for Liquified Petroleum Gas (LPG); and,
- Plan for the Control of Emergencies.

The country also has an Information Center on Chemical Substances that is under the joint coordination of the universities and the Ministry of Health. ASOQUIM, which is a private trade association, has prepared some local contingency plans.

Venezuela's document also reports on various courses that have been offered, chiefly in the area of petroleum, highlighting the launching of the APELL Program in 1995 through joint activities by the oil industry and the community.

The report cites the following as the main difficulties:

- lack of knowledge about the harm caused by chemical accidents;
- lack of interest among the responsible authorities;
- scarcity of trained personnel;
- decentralized legislation and a lack of specific legislation governing chemical accidents; and,
- lack of awareness of several plans by authorities and the community.

## 3. CONCLUSIONS

Based on the information summarized in the previous section, it can be concluded that additional data is needed on the chemical accident preparedness systems currently in place in these countries to facilitate a more detailed diagnostic and, hence, acquisition of the necessary funds for specific programs to meet the countries' real needs.

There are some common aspects that will require action. For example, it will be necessary to:

- standardize the concept of chemical accidents;
- prepare directives for emergency plans to respond to accidents; and,
- train management and operations teams to respond to chemical accidents.

Once detailed knowledge has been obtained about the specific needs of the different countries, a second stage should be launched to carry out the necessary measures, which will be geared toward effective implementation of response systems and programs to prevent chemical accidents.

The response systems should include: plans of action, human resources training, and identification of the material resources needed to cope with emergencies.

The programs for accident prevention will include risk analysis studies in industrial facilities and in activities involving hazardous substances.