

PHILIPPINE CHEMICAL AND HAZARDOUS WASTE EMERGENCY MANAGEMENT PROGRAM (CHWEMP)

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I. Introduction

The Chemical and Hazardous Waste Emergency Management Program (CHWEMP) was initiated and developed by the Environmental Management Bureau of the Department of Environment and Natural Resources in response to the growing concern on and the urgent need to address the issues and problems related to the risks of chemicals and hazardous wastes to the environment. Since its inception in 2002, the Program has been subject of technical and financial assistance from the US Agency for International Development (USAID) through the US-Asia Environmental Partnership Program (US-AEP).

There are more than 100,000 chemicals being used, manufactured, and imported in the Philippines. As of December 2004, DENR registered 3,801 hazardous wastes generators. Based on the submitted reports, the generators produce 226 million tonnes of hazardous wastes annually. The hazardous wastes are classified as plating wastes; acid wastes; alkali wastes; inorganic chemical wastes; reactive chemical wastes; paints, resins, lattices, inks, dyes, adhesives, and organic sludges; organic solvents; putrescibles and organic wastes; textile; oil; containers; immobilized wastes; organic chemicals; and miscellaneous wastes.

Significant amounts of chemicals are increasingly being used and considerable volumes of hazardous wastes are generated in the country with the fast development and rapid industrialization in the Philippines. To cope, address, and respond to emergencies and incidents related to the use, storage, handling, and disposal of chemicals and hazardous wastes, the Environmental Management Bureau, together with different government agencies and industrial associations and organizations, formalized a Technical Working Group to develop the Chemical and Hazardous Waste Emergency Management Program (CHWEMP).

The objective of the Philippine CHWEMP is to establish a national framework for concerted action by the industry, government, and community to address incidents involving chemicals or hazardous wastes. For the purposes of this Program, radioactive materials are excluded. Within the purview of the country's disaster management system, the actions are classifiable as preparedness and response.

In line with the national development and implementation of the Chemical and Hazardous Waste Emergency Management Program, the Environmental Practitioners Association was selected by the USAID/US-AEP to assist the government agencies in establishing the Emergency Response Teams. The main approach is through government-private partnership and active participation of the industrial and manufacturing sectors that utilize these chemicals and generate these hazardous wastes, making use of existing industry associations and civic organizations as mediums of project implementation.

II. The Philippine Chemical and Hazardous Wastes Emergency Management Program

The objective of the Philippine Chemicals and Hazardous Wastes Emergency Management Program is to establish a national framework for concerted action by the industry, government, and community to address incidents involving chemicals or hazardous wastes. *For the purposes of this Program, radioactive materials are excluded.* Within the purview of the country's disaster management system, the actions are classifiable as preparedness and response.

As a framework, the Program fleshes out the major elements of a chemicals and hazardous wastes emergency action plan such as:

- Organization and personnel responsibilities
- Planning, hazards analysis, and plan updating
- Training
- Drills and exercises
- Facilities, supplies, and equipment
- Detection, alarm, and notification procedures
- Response functions
- Containment and cleanup and
- Documentation and investigative follow-up

While it establishes the critical and major plan elements, the Program assigns to local planning committees the adaptation of the elements to suit actual local conditions. Hence, the Program is a guide for the formulation of local emergency management plans. The local plan will depend on the hazards existing in the area, i.e., types of chemicals and hazardous wastes, local geography and climate, time variables, particular characteristics of chemical and wastes facilities and transportation routes, and the capabilities of local industry, government, and community.

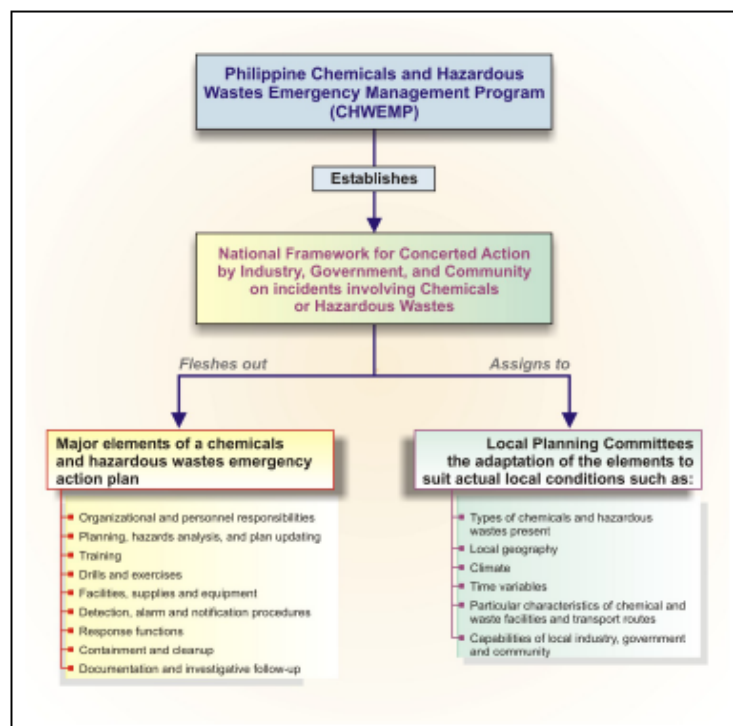


Figure 1. The CHWEMP.

The legal authority for the Program emanates from the following statutes:

- **Republic Act No. (RA) 6969**, also known as the Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 – This empowers the Department of Environment and Natural Resources (DENR), among others, to regulate, restrict, or prohibit the importation, manufacture, processing, sale, distribution, use, and disposal of such materials. The DENR is also authorized to call on any department, bureau, office, agency, state university or college, and other instrumentalities of the Government for assistance in the discharge of functions.
- **Presidential Decree No. (PD) 1185**, the Fire Code of the Philippines – The decree assigns the enforcement of the Fire Code to the Bureau of Fire Protection (BFP). Under the Code, the owners, administrators or occupants of buildings, structures, and their premises or facilities and other responsible persons are required to comply with a fire safety inspection by the BFP; the implementation of fire safety measures for the manufacture, storage, handling, or use of hazardous materials; safety measures for hazardous operation and processes; and fire safety construction, protective, and warning system.
- **PD 1586** which established the country’s Environmental Impact Statement (EIS) system – The system classifies certain projects or areas including those which involve the use of chemicals and the generation or management of hazardous wastes as environmentally critical. For such projects or areas, an environmental compliance certificate (ECC) issued by the President or his representative, either the DENR Secretary or Director or Regional Director of the Environmental Management Bureau (EMB), is required prior to development and operation. The ECC contains the key conditions which must be satisfied by the project proponent in order to protect or enhance the environment. The basis for the ECC is the EIS and an environmental risk assessment (ERA). The ERA discusses the hazardous substances and situations of the project; consequences of major accidents, their probability of occurrence, and estimation of the risk; and safety management system for the project.
- **PD 1566**, the overarching law of the country on disaster management – The salient provisions are: state policy on self-reliance among local officials and constituents in responding to disasters; organization of the National, Regional, and Local Disaster Coordinating Councils; Provincial Governors, City Mayors, Municipal Mayors, and Barangay Chairmen who as the local chief executives lead the disaster management efforts in their respective areas; preparation of the National Calamities and Disaster Preparedness Plan (NCDPP) by the Office of Civil Defense (OCD) and implementing plans by the National Disaster Coordinating Council (NDCC) member agencies and local disaster coordinating councils; conduct of periodic drills and exercises; and authority for local government units (LGUs) to program funds for disaster preparedness activities.
- **RA 7160**, the Local Government Code of 1991 – The act reinforced the responsibilities of local chief executives on disaster management.

This Program is consistent with the disaster management framework established by PD 1566 and the Calamities and Disaster Preparedness Plan (CDPP). It recognizes the following principles:

- The responsibility for disaster management leadership rests on the Provincial Governor or City/Municipal Mayor.
- Each political and administrative subdivision of the country shall utilize all available resources in the area before asking for assistance from neighboring entities or higher authority.
- The national government exists to support the local governments in times of emergency and according to its level of assignment; all national government offices in the field shall support the operations of the local government.
- While emergency preparedness is a joint responsibility of the national and local governments, its effectiveness depends largely on the skills and resources and the involvement of private organizations and the general public in the area of disaster.
- The ideal approach to disaster management is the all-hazards, all agency, multi-sectoral, and community-based approach.

III. Public-Private Partnership: Emergency Response Teams

Pilot Emergency Response Teams were established in specific areas to support the implementation of the national program on chemical and hazardous waste emergencies. The formation of the teams is intended to help identify, organize, and build the capacity of responders in government units and private groups that can serve as working models for replication in other highly industrialized areas in the country.

The individual team members for the emergency response team and the technical support personnel were selected from different government agencies and participating industry organizations. The team members and technical support personnel were trained and made ready, communications network established, and all necessary equipment and supplies provided for. Emergency response teams were formed in the National Capital Region and Central Luzon Region as the pilot-test areas.

To pilot-test and assess the readiness of the pilot teams, a chemical spill and facility fire incident was simulated in a chemical (sulfuric acid) manufacturing plant in Pasig City where a large number of industries that are engaged in the use handling and storage of hazardous chemicals and wastes. The alternative area considered for the pilot testing is in the Central Luzon region where there is also a concentration of chemical industries, including hazardous waste treatment and disposal service providers.

The choice of the two pilot areas is well founded. Almost 50% of the hazardous wastes generators are located in the National Capital Region, contributing an estimated 40,000 tons of hazardous wastes that are treated, stored and disposed of in facilities in nearby regions.

In addition to economic zones, industrial estates, semiconductor and electronic industries, chemical explosives manufacturing, petrochemical and oil refining, and small-scale manufacturers of pyrotechnics (fireworks), the Central Luzon region has, to date, 17 hazardous waste treatment, storage and disposal facilities dealing with 350 hazardous wastes transporters and other service providers.

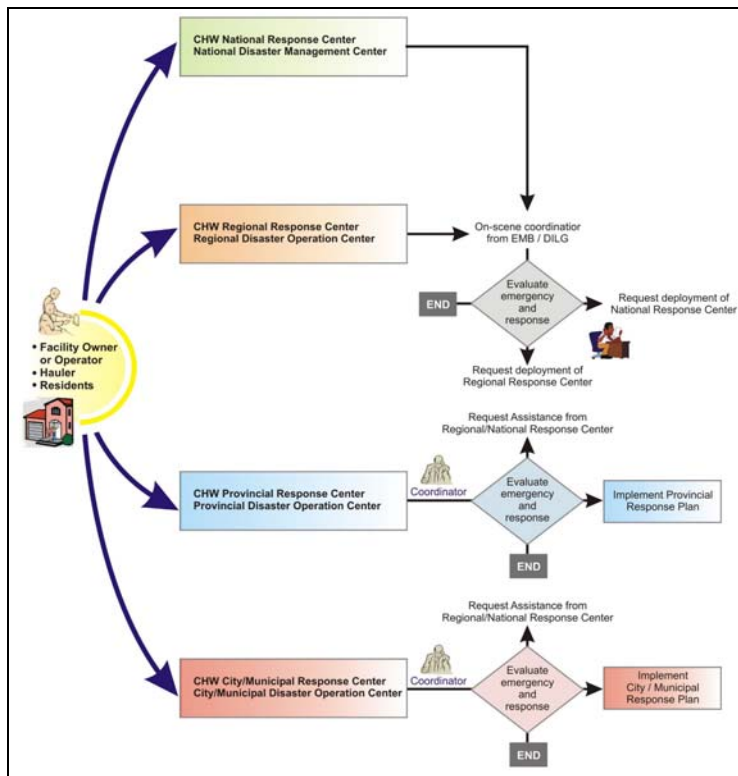
USAID/US-AEP has provided a \$15,000 grant to the **Environmental Practitioners Association (EPA)**ⁱ, a non-stock and non-profit organization that fosters best environmental practices among its industry members as well as government, and cooperating institutions. The association promotes government initiatives over sound environment and safety management within work sites. It is a tangible response to an increasing demand for responsible

management and promotion of self-regulation geared towards ISO certification in Quality Management System (QMS), Environmental Management System (EMS), Occupational Health and Safety System (OHSAS), and others.

A. Objectives:

The objectives of the program, which ran from 30 June 2005 to September 2005 were:

1. Support the multi-agency Technical Working Group (TWG) and the identified consultants/experts in the preparation and development of the CHWEMP;
2. Support the implementation of the CHWEMP by establishing the pilot Emergency Response Teams (ERTs) in the National Capital Region and Region III; and
3. Establish and maintain the necessary communication network of the ERT through the existing notification system, e.g., "Patrol 117" and other related networks following the CHWEMP communication and support system.



B. Activities

To encourage participation and full support of all stakeholders in the program, EPA conducted the following:

- Assisted the TWG to organize and coordinate with its members and identified experts for the conduct of round table discussions;
- Facilitated the round table discussions in preparation and finalization of the CHWEMP and its action plan;
- Documented and provided to DENR-EMB consultants and TWG members reports/proceedings of the round table discussions

- Organized ERTs and technical support groups using a prescribed organizational structure with corresponding mandates, duties and responsibilities, different representatives from the government agencies (regional level and local government units);
- Identified capacity building strategies to operationalize the ERTs by designing training modules, equipment assessment and developing response protocols;
- Conducted training, hands-on and drills for the ERTs and technical support group members;
- Organized the pilot-testing/simulation exercises of a facility spill and fire incident in the NCR- Pasig City;
- Identified existing communication system and notification system;
- Integration of the ERT capability in responding to chemical and hazardous waste incidents into existing infrastructure and procedures of related networks

C. Results

The program exemplifies a very good model on an integrated, programmatic and partnership-based approach in managing chemicals and hazardous wastes. Establishing initial ERTs has strengthened capacity and augmented the insufficient resources of government agencies involved in the CHWEMP.

The main outputs of the programs are:

- Established two (2) ERTs that have been trained and properly equipped to be able to respond to chemical and hazardous waste emergencies in the NCR and Region III areas;
- Established process to develop ERTs in other highly urbanized areas in the country;
- Developed mechanism to be used as guidance for responders-to-be in the field of Chemical and Hazardous Waste incidents for new responders from both government and industrial sector;
- A functioning ERT communications network and notification system.

D. Challenges and Further Actions

- Strengthened collaboration and partnership between government and private sectors

The Philippine government is yet to establish and institutionalize the CHWEMP and address the challenge of implementing the proposed framework. As agreed by all parties, the focus is now on the Office of Civil Defense (OCD) as lead agency in the implementation of the national plan instead of the original plan of having the Department of Environment and Natural Resources, particularly the Environmental Management Bureau (DENR-EMB) as lead agency. The CHWEMP, from its information and preparedness to its response and rehabilitations components can easily be integrated with the existing system of the OCD through the National Disaster Coordinating Council (NDCC) framework.

Following the all-hazards, all agency, multi-sectoral, and community-based approach, the Program involves the current member-agencies of the NDCC. New entities should be tapped: the industry association and the owners or operators of chemical facilities and transport vehicles, public interest and labour groups, and intergovernmental organizations. These entities,

specially the industry and private sector, bring with them their experts, equipment, systems, procedures, and other resources in dealing with hazardous material incidents.

- Replication and establishment of ERTs in other highly urbanized areas

It is expected that the ERTs will be replicated in other highly industrialized areas. The continuing existence of the ERT after its establishment is through the auspices of the industry association needs to be maintained and further developed.

- Institutionalization of all levels of the Hazardous Materials Trainings at the NDCP, FNTI and OCD

The training designs for the establishment of the ERT and the capacity building program for chemical and hazardous waste emergency response, will be institutionalized in the BFP, NDCP and PPSC-FNTI and will be made available to all other government agencies, LGUs, and interested NGOs and volunteer groups.

ⁱ EPA encourages all institutions/organizations that regard human life and environment as precious assets for sustainable development. It embraces practitioners of environment, health and safety, and pollution control. The EPA, through shared expertise and logistics among members to foster optimum use of resources and strengthen developmental aspirations, offers the following benefits to its members:

- Institutional support and assistance to regulatory compliance through shared resources and capabilities
- Venue for learning and exchange of ideas on how to improve efficiency and optimize resources
- Opportunity for professional growth through training and seminars
- Assistance for official accreditation and recognition
- Inputs and information for developmental progress and legislation
- Links with other organizations promoting environmental health and safety management
- Rapport among industrial/commercial organizations, regulatory and support agencies
- Established database of practitioners, regulatory requirements, resources and links

The EPA relies on the true commitment of organizations and individuals with unwavering ideals in promoting a better workplace and sound environment. On-going activities include continuous training of its member representatives on the latest developments and approaches in environmental management, health and safety and pollution prevention, and other regular activities like the Recyclables Collection Event, public fora on environmental legislations, etc.

Since its formation in 2001, the EPA membership has grown to its present number of about fifty companies, as institutional members, and some government agencies and a private foundation, as honorary members.