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PROCEEDINGS OF THE REGIONAL SYMPOSIUM ON EMERGENCY PREPAREDNESS AND CHEMICAL DISASTERS: A CHALLENGE FOR THE XXI CENTURY

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CHEMICAL EMERGENCIES WITHIN THE FRAMEWORK OF THE INTERNATIONAL PROGRAM ON CHEMICAL SAFETY (IPCS) AMERICAS

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5

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INDEX

1. INTRODUCTION

Chemicals continue to make a major contribution to our modern standard of living, to our food supply, to our clothing and shelter, to our health care, and to transportation and communications. There has however been a growing awareness for several decades that one should examine or test before deciding that a chemical is or is not sufficiently "safe" for the use or application(s) for which it is intended.

Modern science uses the term "risk assessment" to the process of determining what is known about the connection between exposure to various chemicals and adverse health effects. The use of this information to make policy decisions is referred to as "risk management". In general terms chemical safety embraces both the assessment and management aspects for protecting the health of man and the environment in general from the potentially adverse effects of the very large number of chemicals substances that are being produced, used or released into the environment.

This document examines the way in which international and regional programs have addressed the risk assessment and management of chemicals in the environment in the past (pages 2 to 5), summarizes the present situation (pages 5 to 8) and examines how regional programs may need to be structured and implemented in the future in order to respond to developments elsewhere and the needs of the region (pages 8 to 20).

2. BACKGROUND

Current estimates indicate some 100,000 chemicals are in commercial use worldwide and that their number is still that increasing; in addition, there is an unknown number of degradation products, metabolites, naturally occurring substances and chemical intermediates to which people may become exposed. Many of these appear as contaminants in food, commercial products and the various environmental media. Although not all of these substances are produced in quantities that warrant detailed toxicological evaluation, the task of safeguarding public from deleterious exposure to chemicals is very large. The issue of screening and testing such a large number of chemicals was already considered to be nearly intractable in the 1960s; clearly the chemical-by-chemical approach to the assessment and management of risks to health posed by chemicals cannot alone be an effective public health protection strategy.

The need for an international effort through which countries could pool their limited resources and coordinate testing and evaluation procedures of chemical substances was recognized during the UN Conference on the Human Environment held in Stockholm in 1972. In 1977 the WHO World Health Assembly endorsed proposals for the development of an international program and in 1980 a Memorandum of Understanding was signed between the International Labor Organization (ILO), the United Nations Environment Program (UNEP) and the World Health Organization setting up the International Program on Chemical Safety (IPCS).

2.1 International Programme on Chemical Safety (IPCS)

The IPCS is a cooperative Programme of United Nations Bodies, directed towards providing the internationally-evaluated scientific information basis on which countries may develop their own chemical safety measures and, through international cooperation, strengthening capabilities and capacities in countries to prevent and treat harmful effects of chemicals and to manage emergencies involving chemicals.

At country level the Programme operates through a network of country designated IPCS Participating Institutions for the purpose of undertaking specific activities and supporting the work of IPCS. Some of these have actively contributed to the success of the programme while others have yet to become operational. In addition, IPCS has developed working relations with a number of other international, intergovernmental and non-governmental organizations, associations and professional bodies which have important activities in the field of chemical safety.

The IPCS programme content that developed during the early 1980s includes the following components:

- Risk evaluation of priority chemicals - The most well known, outputs in this component are the Environmental Health Criteria Documents over 160 of which have been published, which are comprehensive summaries of scientific information on specific chemicals or groups of chemicals with an evaluation the risks to health and environment intended to guide the specialist in making informed decisions to manage risks to human health and the environment. A second series of documents produced are the Health and Safety Guides (some 87 of which have been published) which are short documents summarizing the toxicity information in non-technical language, and provide practical advice on matters such as safe storage, handling, and disposal of chemicals, accident prevention and health protection measures, first aid and medical treatment with care of acute exposures, and cleanup procedures. A third series involves the production of International Chemical Safety Cards (some seven hundred of which are available) which summarize health and safety information on chemicals. They are intended for use at the floor shop, in factories and agriculture and other places of work. The International Agency for Research on Cancer of the World Health Organization (WHO) is producing a series of documents entitled : IARC Monographs on the Evaluation of Carcinogenic Risks to Human (about 60 volumes have been published to date).

Concerning risk evaluation of certain chemicals associated with food the IPCS provides the toxicological component of the joint FAO/WHO activities namely: the joint FAO/WHO Expert Committee on Food additives (JECFA), which deals not only with food additives, but also certain contaminants and with residues of veterinary drugs in food; and the joint FAO/WHO Meeting on Pesticide Residues (JMPR), which deals with residues of pesticides in food. The latter activity is being expanded through the Joint Meeting on Pesticides (JMP) to cover evaluation of the toxicological risks of pesticides in various environmental media as well as in food. Some 700 food additives, 55 veterinary drugs, 220 pesticides and 20 chemical contaminants associated with food have been evaluated or reevaluated.

Other IPCS activities include:

- preparation (jointly with FAO) of Pesticide Data Sheets (some 94 are available) giving a summary of evaluated information in pesticides used in human health activities;

- periodic revision of the WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification;

- the toxicological inputs for the periodic revision, with the WHO Division for Environmental Health, of the WHO Guidelines for Drinking Water Quality;

- the toxicological inputs for the periodic revision, with WHO (EURO), of the WHO Guidelines for air quality.

- Methodology for risk assessment, which is aimed at development, testing, validation and harmonization of toxicological and ecotoxicological, experimental, clinical and epidemiological methods for assessing chemical risks, monographs are issued in the Environmental Health Criteria Series (some 16 are available); and additionally a similar number of guidance documents have been published. The results of three collaborative studies have also been published.

- Prevention and treatment of poisonings - The content of this component is based on a survey carried out in 1985 which produced the following listing of areas which required international collaboration :

  - establishment of guidelines for poison control;

  - validation and availability of antidotes used in the treatment of poisonings;

  - harmonization of information needed for the diagnosis and treatment of poisonings, including case data and the development of compatible, computerized information system;

  - development of toxicovigilance and poison prevention programs, including appropriate epidemiological studies;

  - establishment of a mechanism for exchange of experience on the role of poison centres in responding to major accidents involving chemical poisonings; and

  - development and training of manpower needed for poison control.

The outputs from this programme component include : guidelines for poison control facilities; handbooks and manuals for prevention and first aid treatment of poisoning and on basic analytical toxicological techniques; monographs on common poisonous substances (poisons information monographs, some 60 are available), on antidotes and other substances and techniques used in treatment of poisoned patients (some dozen monographs are published or under preparation), poisons information package (IPCS/INTOX) for information management at poisons control facilities; systems for systematic collection of harmonized data on poisoning cases and on toxicovigilance, as well as for dissemination of information on poison control.

- Medical response to chemical emergencies, which is aimed at providing the health sector with guidance and tools for collaborating with emergency services in response to chemical accidents, including their follow-up. A guidance document on the health sector role in major chemical accidents was published jointly in January 1994 by OECD, UNEP's Industry and Environment Program, WHO (ECEH) and the IPCS. It consists of three documents : (1) Guiding Principles for Decision and Policy Makers; (2) Technical Guide for Health and Other Professionals involved in the Health Aspects of Chemical Accidents; and (3) Checklist of Items for Responsible Officers in Health, Environment and Other Ministries. A series of

regional and country workshops based on the guidance document are being organized. Further guidance is being developed on follow up of chemical accidents.

- Human resource development and training, which is aimed at strengthening capacities and capability of countries to manage chemical risks through training and education of specific target groups. Training modules and various guidance materials have been prepared in order to promote an understanding of chemical hazards, the uses of toxicological test data, risk assessment and safe use of chemicals under a variety of conditions, particularly safe use of pesticides, poisoning prevention and treatment and environmental epidemiology. A handbook on Chemical Safety Matters gives guidance for safe handling and disposal of chemicals in laboratories a training course on use of the IPCS/INTOX package being prepared, as are guidelines for strengthening natural chemical safety programmes. Some 50 training courses have been organized or co-organized by the IPCS for developing countries, mainly directed towards improving the awareness of senior decision makers concerning chemical safety matters or to training of trainers and carefully selected professionals in the understanding of the nature of chemical hazards, the use of toxicological and ecotoxicological test data, the relevance risk assessment to decision making, safe use of pesticides, prevention and treatment of poisoning, use of the IPCS/INTOX package and epidemiology.

As a result of the United Nations Conference on Environment and Development (UNCED) the role and scope of the IPCS has further evolved (see section 2.3).

2.2 AMRO/PAHO Program on Chemical Safety

In January 1984 the Executive Board of WHO approved a resolution encouraging the active participation of developing countries in the IPCS. The resolution called, among others, for the increasingly active involvement in the Program of all WHO Regional Offices with a view to strengthening technical cooperation with Member States in the area of chemical safety.

The XXX Meeting of the Directing Council, held in September 1984, approved resolution XIV on the IPCS. The resolution urged the Member Governments to participate in activities under the International Program of Chemical Safety and to support the policies and strategies to be adopted in the Region. It also requested the Director to implement measures for the evaluation of the status of chemical safety and the framing of proposals for a Regional Medium Term Program.

The evaluation study was carried out in 1985 and its results indicated that "there were grounds for suspecting the evidence of a number of health problems associated with exposure to chemicals through their concentrations in the natural and occupational environments". An extensive summary of the data and information obtained was published as a Report entitled Regional Program on Chemical Safety. This Report also outlined a detailed set of strategies and specific Medium Term Program Activities (MTP) for the period 1986-1989. The contents of the report were endorsed by the XXII Pan American Sanitary Conference.

Based on the strategies and program activities set out in the MTP, a number of annual work plans were implemented by PAHO/AMRO. It was originally planned that an interdepartmental committee would plan and oversee the implementation of the program. However, the lack of a more definitive organizational structure and associated budget proved this arrangement less than effective. Instead, the

program was principally implemented by the Pan American Center for Human Ecology and Health (ECO) with the Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS) and the PAHO Office in Washington, D.C. completing smaller parts of the Regional IPCS Program. In all activities the PAHO/AMRO country staff provided significant administrative and technical support.

Working contacts (participation in meetings, review of documents, etc.) with the Global IPCS were largely maintained by ECO. ECO Staff also participated in many of the meetings and training courses implemented in the Region under the auspices of the Global IPCS.

Over the years, many multi, bilateral and governmental agencies provided significant financial support for the Regional Program on Chemical Safety. Moreover, in recent years increased efforts were made to better coordinate the programming of the semestrial and annual work plans of the various PAHO/AMRO entities (country, ECO, CEPIS and Washington Office). This change has shown to be effective in that a more comprehensive regional approach to the control of chemicals in the environment is being achieved.

The orientation of the Regional Program on Chemical Safety to date has been to concentrated on the following areas.

- development of National Plans in priority areas of chemical safety;
- generation and exchange of information;
- manpower; and
- institutional development.

The Program has over the years made considerable contributions in each of these areas. As an example, program outputs in 1994 are summarized in Annex I.

2.3 The United Nations Conference on Environmental and Development (UNCED)

Following the Stockholm Conference in 1972, a large number of policies, programs and projects were initiated both at the national and international level. However, over the years the realization gradually developed that merely controlling environmental deterioration at the local and regional levels was not adequate and that the health of our planet was still in jeopardy. The Bruntland Commission strongly recommended that economic and social development be made sustainable. Called to review the progress made since the Stockholm Conference, a United Nations Conference on the Environment and Development (UNCED), held in Rio de Janeiro, in 1992, wholeheartedly endorsed the concept of sustainable development.

UNCED took several years to prepare. Most countries of the Region participated actively both in the preparatory meetings as well as at the Conference itself. The Conference provided a forum for many diverse groups, interests, and groups of countries to express their views and concerns on the preservation of our environment. One output of the Conference is Agenda 21, which had originally been formulated and discussed during the preparatory meetings. Agenda 21 addresses the pressing problems of today and also aims at preparing the world for the environmental challenges of the next century. As such it reflects a global consensus and political commitment at the highest level on development and environment cooperation. It is envisaged that national strategies, plans, policies and processes are to be established to achieve the goals and objectives set out in the various chapters of the document.

Chapter 19 is particularly relevant to IPCS in that the Conference:

(i) Adopted an international strategy for environmentally sound management of chemicals consisting of six priority programme areas.

- expanding and accelerating international assessment of chemical risks;
- harmonizing the classification and labelling of chemicals;
- information exchange on toxic chemicals and chemical risks;
- establishment of risk reduction programs;
- strengthening of national capabilities and capacities for management of chemicals; and
- prevention of illegal international traffic in toxic and dangerous products.

(ii) Called for the strengthening of the IPCS as the nucleus for informed coordination and enhanced cooperation among international chemical safety activities, see 3.2 (i).

(iii) Called for the establishment of an intergovernmental mechanism for chemical risk assessment and management, see 3.2 (ii).

It encouraged an acceleration of the work currently in progress, and indicated that more emphasis should be placed on program activities in the area of risk reduction and management.

3. ANALYSIS OF THE SITUATION

During the last twenty years many changes have occurred in the Region. After many years of stagnation the economies of most countries in the Region are improving again and social conditions are also rapidly evolving. The rapid growth of urban populations is straining the infrastructure in the areas of waste disposal and urban transport. Also, the rapid development of resource extraction and industrial capacity is causing concern with regard to environmental deterioration and the associated potential health effects. The increased production and use of chemicals in industry, agriculture and other sectors of the economy has also been shown to adversely effect the health of many persons in the Region.

3.1 Environment and health context

There are both positive and negative aspects to the developments described in the previous paragraph. On the positive side, the awareness and concern about environmental deterioration has increased significantly at all levels: the general population, at the professional level, in industry and among decision makers and politicians. On the negative side, it must be noted that improved understanding does not necessarily follow increased awareness and concern and that public misperceptions can result in precious health protection resources being expended on issues that do not merit highest priority. It must be recognized also that institutions, legislation, laboratories and trained staff for preventing or controlling exposure to chemicals are mostly judged inadequate, contributing to hazardous environmental conditions in many locations.

The potential impact of this situation on the health of the general population and workers has been investigated over the past four years in detailed studies to investigate:

- The health impact on workers and other exposed people as a result of exposure to pesticides.

  The existing data about the number of pesticide poisonings per year shows an increase in the trend during the last 10 years. The percentage of deaths among the pesticide poisoning cases ranged from 1.5 to 12% (the wide range probably results from variation in pesticides used, the number of applications per season and other variables). It is estimated that roughly 70% of the persons poisoned by pesticides worked in the agricultural and livestock sector.

- The health impact of urban air pollution on the general population and selected vulnerable groups.

  Over the past decades, the air quality in many urban areas of the Region has deteriorated. Some improvements have also been noted, mostly related by automobile traffic. The contaminants of concern came from industrial and combustion processes and several studies indicate significant health effects among local populations, as indicated by increased visits to emergency treatment centers and the prevalence of respiratory problems. An estimate (based on the use of a model) forecasts the possible Regional loss of 65 million worker days per year due to respiratory related illnesses.

- The types and quantities of hazardous waste produced by industry and health care facilities in 21 countries of the Region.

  A recent survey carried out in the Region shows that a relatively small number of industries, i.e., the textile, tanning, pulp and paper, printing, basic chemicals, ferrous and non-ferrous foundries, and metal finishing industries are responsible for a large percentage of contaminated effluents and hazardous wastes generated. Final disposal practices for industrial hazardous wastes are generally rated inadequate. Regarding wastes from health care facilities, it was observed that a large proportion of wastes generated by health care facilities are managed as domestic wastes, thus, exposing health care workers and others involved in the disposal of these wastes.

- The health effects among people following the discharge of toxic chemicals into surface and groundwater.

  Several types of chemical substances enter the surface and groundwater bodies with Region. For example, several types of heavy metals are discharged from various mining operations, including lead, mercury and arsenic. Other classes of chemical stem from agricultural discharges and run off that contain various fertilizers, pesticides and herbicides. Industry also makes a considerable contribution in the form of many classes of organic substances solvents and other materials that are discharged as waste products. If the water is used as drinking water, the risk of serious health impacts, including injuries to liver and kidney, effects on reproduction and neonatal development, neurological effects and cancer increase significantly.

Each of these studies has shown either significant health impact or, in the case of hazardous wastes, a significant potential for deleterious health effects.

3.2 Changes in the IPCS structure and programs

(i) Strengthening interorganizational cooperation

As referred to in section 2.3, UNCED Agenda 21 gave the six priority programme areas for an international strategy for environmentally sound management of toxic chemicals. It was recognized that there is a key role for a number of intergovernmental organizations, as well as for countries, in implementing these priority programme areas. Furthermore, the collaboration on chemical safety between UNEP, ILO and WHO in the IPCS was called to be the nucleus for improved international cooperation in this field.

In response to this call, a series of consultations have been held with secretariats of other intergovernmental organizations, as well as with the Commission of the European Union. These consultations have centred on developing the concepts for a formal overall mechanism through which other organizations, besides the current three, may collaborate, and on a series of mechanisms for coordinating international work in relation to specific Programme Areas of Chapter 19 of Agenda 21. These coordinating mechanisms would not necessarily be limited to work of intergovernmental organizations, but may involve non-governmental organizations and, where appropriate, national institutions.

Intensive consultations have taken place between WHO, ILO, UNEP, FAO, UNIDO and OECD to establish the Inter-Organization Programme for the Sound Management of Chemicals (IOMC), a mechanism for coordinating efforts of the intergovernmental organizations. An Inter-Organizational Coordinating Committee (IOCC) has been established, and a draft Memorandum of Understanding, which provides the legal basis for the cooperation among the six organizations came into force in March 1995. The IOCC, composed of one representative of each of the Executive Heads of the Participating Organizations, will be responsible for the oversight and will ensure coordination of activities on chemical safety carried out by the participating organizations, individually, or jointly. In addition, the possibility for joint scientific and technical activities in support of implementing sound management of chemicals with other organizations and bodies. e.g. CEU, are envisaged, and specific cooperative agreements would be drawn up. It has been agreed that WHO would be the administrating Organization for the IOMC and Director of the Chemical Safety Program (PCS) has been invited to serve as Head of the Secretariat of the IOCC. Besides the coordinating functions, the IOCC may play a role in resource mobilization. The Regional Program and its work will need to be recognized by the IOCC.

Specific coordinating mechanisms have been, or are in the processing of being, established in relation to some programme or sub-programme areas, such as harmonization of classification of chemicals, information exchange on toxic chemicals and chemical risks, chemical risk evaluation, etc.. These mechanisms provide a regular forum for all interested bodies working in the respective areas to consult with each other on programme plans and activities, and to discuss ways and means of ensuring that these activities are mutually supportive.

(ii) Intergovernmental forum on chemical safety

In follow-up to the UNCED recommendation, and in response to WHA 46.20, the Director-General of WHO convened, on behalf of the Executive Heads of ILO and UNEP, the International Conference on Chemical Safety, which was held 25-29 April 1994 in Stockholm, hosted by the Swedish Government. The Conference established an Intergovernmental Forum on Chemical Safety (the Forum). Regarded as its first meeting, the Forum adopted priorities for action for implementing the Programme Areas of UNCED's Agenda 21, Chapter 19. The Forum is a non-institutional arrangement whereby representatives of governments meet to consider and to provide advice and, where appropriate, make recommendations to governments, international organizations, intergovernmental bodies and non-governmental organizations, involved in chemical safety, on aspects of chemical risk assessment and management. The Forum will provide policy guidance with emphasis on regional and sub-regional cooperation, develop strategies in a coordinated and integrated manner, foster understanding of the issues, and promote the required policy support needed to discharge these functions.

The second meeting of the Forum will be held before the Special Session of the UN General Assembly in 1997 to consider progress made on the implementation of Agenda 21 as a whole. A third meeting is foreseen for the year 2000. Between meetings, the activities of the Forum will be directed by the Intersessional Group (ISG), composed of 31 countries, the first meeting of which was held in Bruges, 21-23 March 1995, at the invitation of the Belgian Government, and the second one in Australia, March 1996.

Following the offer of the Director-General, WHO, to provide an interim secretariat for the Forum, an office has been established in WHO/HQ. WHO is the administering agency for the Secretariat and Director PCS also serves as Executive Secretary of the Forum. A Trust Fund to provide the financial support for the Secretariat has been established in WHO.

The establishment of the Forum was vigorously supported by the Commission on Sustainable Development (CSD) at its second meeting in May 1994. Recommendations of the CSD were endorsed by the UN Economic and Social Council at its substantive session in July 1994. In addition, the CSD called upon UN bodies and other international organizations to strengthen the IPCS so as to share the burden of work. The CSD urged that there be close links between the Forum and a strengthened IPCS.

4. ESTABLISHMENT OF IPCS AMERICAS

The continued rapid social and economic development of the Latin American and Caribbean countries mandates the need for a strong Chemical Safety program. This conclusion is supported by the following observations:

- The conditions in the Region have changed in that the awareness of the dangers of exposure to many chemical substances has grown and, parallel to this, the demand for safeguards. This presents an opportunity to strengthen national chemical safety programs.

- Available information clearly shows that significant segments of the population in the Region , both in the communities and places of work are at significant risk as a result of exposure to chemicals.

- UNCED provides a renewed mandate and provides a detailed blue print in the form of Agenda 21 for the reorganization and expansion of existing chemical safety programs, both international and national.

In the light of these observations, a meeting was convened at PAHO headquarters in February, 1995 with relevant IPCS staff from Geneva and HEP staff from Washington to discuss and consider the adoption of a new strategy for the implementation of IPCS in the Americas. The meeting agreed to establish a structure of coordination similar to what exists for the Global Program, with the Regional Offices of the International Labour Organization (ILO) and of the United Nations Environment Program (UNEP), in order to implement the global goals of the Program, as well as additional ones of a Regional character. This action replaces the previous Regional Program of Chemical Safety of PAHO, which becomes the International Programme on Chemical Safety in the Americas-"IPCS Americas". An interagency meeting was subsequently convened in November, 1995 which endorsed the structure of IPCS-Americas. Participants to this meeting also approved a plan of joint activities for 1996/1997. Further meetings and activities to complete the structure of IPCS-Americas and its program of work are discussed in section 8.1.

5. OBJECTIVES

(i) Achieve effective, fully operational, Regional Plan for the control of chemical substances through active cooperation among relevant national and international agencies, institutions and organizations; and

(ii) Strengthen the capacities of Member States in the Region to identify, evaluate, and eliminate hazardous exposures of all people to chemicals or groups of chemicals.

6. LOGIC OF PLAN DESIGN

Implementation of the recommendations emerging from UNCED, as reflected in Agenda 21, requires the development of a plan, a critical part of which will necessitate a AMRO/PAHO regional plan for the environmentally sound management of toxic chemicals. Countries in the region have committed themselves to an appropriate course of action through the UN General Assembly. The role for PAHO/AMRO is to provide leadership, coordination and to act as a catalyst to promote appropriate action at the country level.

A critical part of the overall strategy of the IPCS-Americas is, therefore, to act as an effective interface between, on the one hand, the agencies and institutions in the Region that are concerned with chemical safety, and on the other hand, IPCS, in its global endeavors to promote the safe use of chemicals.

In particular, IPCS-Americas should assume a lead role in the following:

- Ensuring that the various sectoral interests in the region collaborate in developing a regional plan for sustainable development that fully recognizes and incorporates the concept that sustainable development is contingent upon good health.

- Ensuring that the IPCS-Americas focusses on priority chemical safety issues in the region, in the short term concentrating on those with the most wide spread and serious health impacts, e.g.:

  - safe use of pesticides;

  - reduction in accidental poisonings and ensuring the availability of appropriate information on treatment and antidotes;

  - reducing exposure of workers to harmful chemicals;

  - prevention of major chemical accidents;

  - minimizing the discharge of toxic chemicals into the environment.

- Building an IPCS-Americas based on existing facilities, capacity, and capability wherever possible.

- Developing an IPCS-Americas to take advantage of developments at the IPCS global level and in the IPCS' in other Regions.

- Establishing collaborative activities with the IPCS Global Program and other IPCS regional programs to develop approaches appropriate to the IPCS Americas, to transfer know how, carry out demonstration projects, etc.

- Taking advantage of advances in information technology to ensure that appropriate information is in the hands of decision-makers throughout the Region. Investigate and ensure that countries within the Region are aware of, and can take advantage of, global developments relating to the Information Highway to ensure chemical safety.

- Maintaining adequate networking and information dissemination systems in support of the IPCS-Americas.

7. SPECIFIC ACTIVITIES OF THE IPCS AMERICAS

The IPCS Americas should aim to further the objectives of Agenda 21: Chapter 19, while serving the needs of the region. Recognizing that the toxicology of chemical substances is universal in its applicability, the regional plan should be focussed on identification of high risk groups among the population of the region, and by encouraging the development and implementation of policies and strategies to eliminate or reduce risks to health posed by toxic chemicals.

Program Area	Expected Results	Activity
A. Expanding and accelerating international assessment of chemical risks.	Chemicals important to the Region which require priority risk assessment have been identified.	Maintenance of a list of priority chemicals for the Region.
	Data and information from research in the Region is available for global use in improved risk assessments.	Provision of support for Regional research and epidemiological studies, particularly on high risk exposures and in high risk areas.
		Provision of support for research on the adaptation of epidemiological and associated environmental assessments to conditions prevailing in the Region.
B. Harmonization of classification and labelling of chemicals.	Information exchange regarding existing systems of classification and labelling of chemicals as well as ongoing work and results for their harmonization are available for the development of updated relevant national systems.	Monitoring of progress at the global level and assist countries in implementing national systems of classification and labelling, with the goal of international harmonization.
C. Information exchange on toxic chemicals and chemical risks.	Information exchange networks within the Region will have been strengthened to take full advantage of the capacities that currently exist.	Promotion of awareness and training on the use of existing sources of information, especially those relating to risk assessments.
		Encouragement of countries in the Region to share experience, especially concerning successful risk reduction initiatives.
		Guidance on access to and the use of appropriate data banks and information systems.
		Assurance, to the extent possible, that information ex-

		changed is tailored to the needs of the Region, especially with respect to language.
		Development and maintenance of poison treatment capacity in national health care systems and their associated professional organizations and associated educational and training facilities.
		Guidance on the use of PAHO and other information systems in decision-making.
	Risk assessments undertaken at the global level are available throughout the Region.	Development and maintenance of a network of working level contact points, particularly of environmental toxicologists and epidemiologists, at the national level.
		Guidance on access to and the use of appropriate data banks and information systems.
D. Establishment of risk reduction programs.	Specific high priority risk situations in the region will have been identified and protection measures put in place.	Development of a regional plan for reducing risks to human health from pesticides, particularly in the agricultural sector and in households.
		Provision of technical support and collaboration in the development of risk reduction strategies and in emergency situations.
	Establishment of national systems for preventing major industrial accidents and minimizing the impact of accidents during transportation will have been promoted.	Training in the application of international principles such as those contained in the ILO Convention on the Prevention of Major Industrial Accidents, 1993 (No. 174) and for the establishment of national systems for emergency preparedness.

E. Strengthening of national capabilities and capacities for management of chemicals.	Technical cooperation to national agencies, institutions, industry, and NGO's, on the development of national plans, capacity, programs, and strategies for chemical safety will have been provided.	Training on chemical risk assessment and management. Training workshops at the national and regional level on the design and implementation of worker protection programs. Support the implementation of other Regional Plans on chemical safety areas.
	National capacity to prevent and/or manage environmental problems will have been strengthened.	Technical support and training for relevant laboratories. Support countries in developing programs for advanced training in chemical risk assessment and risk training. Implementation of the development of human resources through training, including workshops on: 1) Poison treatment facilities, 2) Chemical exposure reduction, and 3) For establishing poisoning surveillance systems, especially for pesticide poisonings. Application of the principles of the ILO Chemicals Convention, 1990 (No. 170) for the establishment of National Systems on Environmentally Sound Management of Chemicals and the achievement of appropriate information, including legislation, institutional structure, trained staff, information systems, and laboratory capacity. Provision of technical support for the development of rules and standards for the protection of workers, including:

		1) guidelines for establishing adequate monitoring systems on the health of workers; and 2) improvement of medical oversight of industrial workers and adequate access to computerized databases and information systems.
F. Prevention of illegal international traffic in toxic and dangerous products.	Dissemination of relevant information will have been achieved.	Support for the development of relevant enforcement capabilities.

8. IMPLEMENTATION

8.1 Progress on Program Structure and Coordination

During 1995 consultations were held among Regional Representatives from ILO and UNEP and appropriate PAHO HEP staff, which resulted in a formal agreement to cooperate in the further development and implementation of the IPCS-Americas. During a consultation of WHO, PAHO, ILO and UNEP staff, held in November 1995, the following list of activities was compiled to further strengthen cooperation among these Agencies.

- Prepare a new version of IPCS-Americas document with specific tasks and resources, March 1996;
- Plan for joint actions of PAHO, UNEP and ILO for 1996/97, March 1996;
- Convene a meeting with Participating Institutions of the Americas Region, including Global, IPCS, UNEP, ILO, PAHO, June 19-20, 1996
- Execute elaboration of projects for resource mobilization with an active role of the IPCS Global and the three agencies, continuous;
- Support the convening an expanded Americas ISG Meeting --preparation for Canada 1997, August 1996.

Numerous other consultations were undertaken with representatives from appropriate National Agencies and Institutions as well as with those from other organizations.

As called for during the first meeting of the Intersessional Group (ISG) of the Forum on Chemical Safety, a meeting was held of the ISG members and representatives from other countries in the Americas. The Expanded Americas ISG (EA-ISG) meeting identified priorities for action and opportunities for cooperation, as well as work toward consensus on relevant environmental health and other policy issues.

8.2 Resources

In 1995 a pilot project of IPCS-Americas functioned with regular budget resources of about US$250,000. It is envisaged that in 1996 this level will be maintained. The level of extrabudgetary resources reached about US$2,500,000. Again, it is expected that a similar amount will be available in 1996. Various program activities carried out in the Region under the aegis of the global IPCS are not included in the information presented above.

With regard to human resources, the IPCS-Americas is to be managed by AMRO/PAHO with the oversight being effected by the Director of Health and Environment, together with the Directors of ECO and CEPIS, representatives from other relevant PAHO units, and other technical and country staff, as well as advisors, as required.

8.3 Work plan

The IPCS-Americas, as described in the preceding sections of this document, will serve as the vehicle for the development of a 4-year work plan. The content of this plan will be based on the results of the various consultations undertaken during 1995. Subsequently, based on this plan, a number of Annual Program and Budgets or APB's, will be completed. These documents, are carefully prepared for each calendar year and form the basis through which PAHO manages its resources, both human and financial, in each program area.

8.4 Other program support operations

Implementation of the plan will require a number of more support oriented activities as follows:

- Country profile development - this is to be achieved using a questionnaire that will gather information on institutions, staff, legislation, chemical safety priority problems, training requirements, etc. This information is to be used to more effectively implement the plan and to ensure that its outputs relate closely to priority needs;

- Collaborating Centers - a network of active collaborating centers is to be maintained to provide additional human resources and technical support in particular components of the plan on an ongoing basis;

- IPCS-Americas Meeting - this meeting will serve to inform participants in the plan about its content and objectives and to obtain their support and recognition for it;

- Network - a network for the exchange of information is to be maintained of institutions and experts involved in chemical safety program and activities; and

- Consultations - There are a large number of International and National Organizations that are active in chemical safety activities in the Region. Further discussions will have to be undertaken to establish an appropriate consultative process with links to the plan described in this document. Also, the possibility to develop appropriate collaborative projects or activities with other partners in areas of common interest needs to be further explored.

ANNEX I
OUTPUTS OF THE IPCS AMERICAS IN 1994

Training and Education

- 12 courses on pesticides-occupational and environmental epidemiology toxicology and surveillance. (Approximately 515 total participants from 10 countries.)
- 1 course on risk communications (15 participants from one country.)
- 4 courses on environmental epidemiologic surveillance. (Approximately 115 participants from 5 countries).
- 7 courses on chemical safety area-toxicology and interpretation of reforms information. (489 participants from 12 countries).
- Support for several courses on diagnosis and treatment of intoxications caused by pesticides and industrial products.
- Support for several postgraduate/masters degree programs.

Documentation

- Hazardous wastes and health in Latin America and the Caribbean.

Research/Evaluation Studies

- Starting of the 2nd phase of the environmental epidemiology project in Latin America.
- Implementation of 10 studies dealing with environmental epidemiology and chemical safety.

Information Systems

- Ongoing expansion and operation of 2 systems (ECOLINE and REPIDISCA) for the provision of information (on-line and in the form of CDs and hard copy).
- Support for the Implementation of Poison Control Centers in 12 countries.

Technical Cooperation

- Assistance was provided to many countries/agencies for assistance with specific chemicals related problems ranging from recommendations for clean up of a toxic waste dumps in Paraguay to intoxications relating to pesticide exposure, to issues relating to industrial areas, including the US-Mexican Border area.