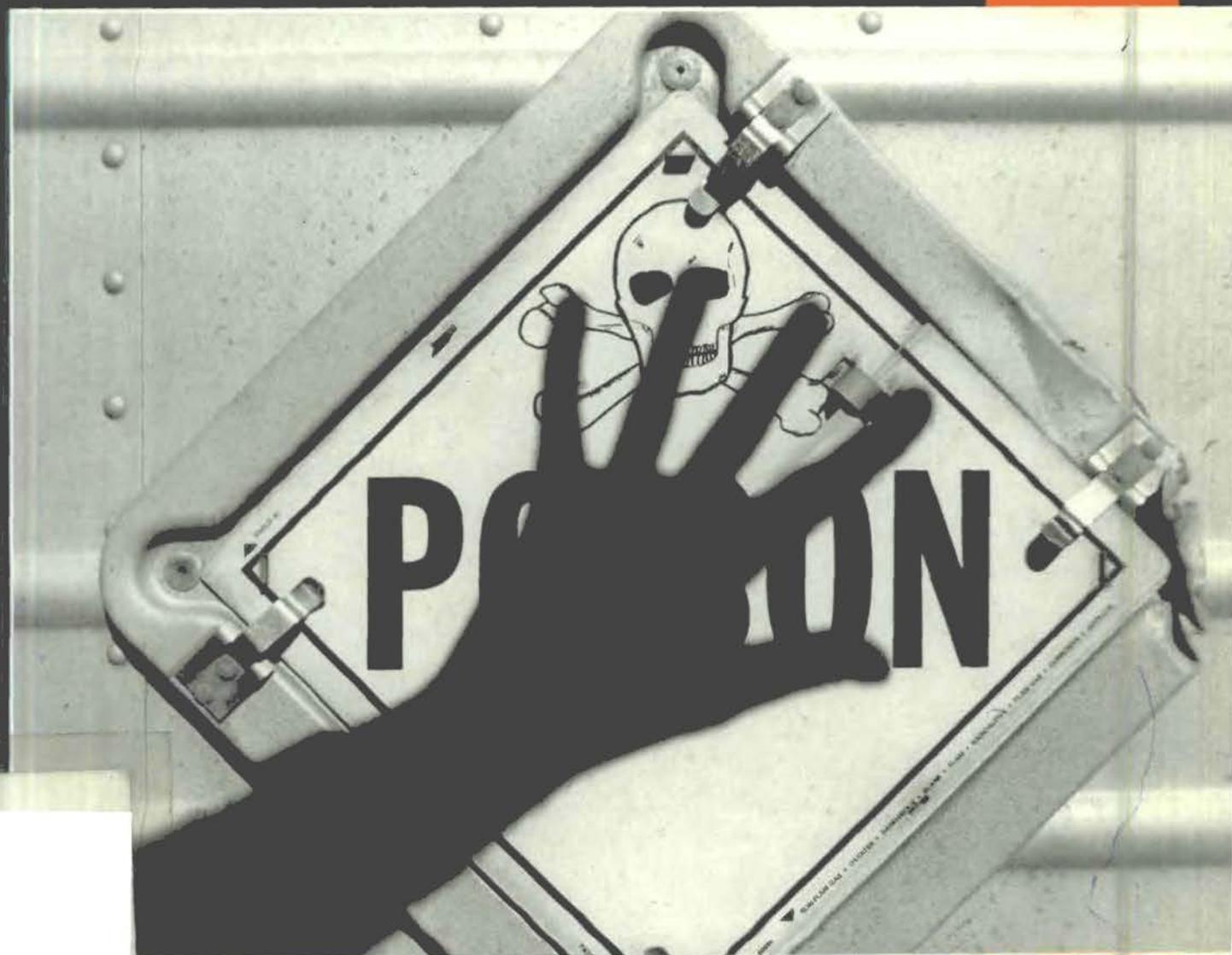


Progress within the
UN System, and by two
other intergovernmental
organizations, in implementing
Chapter 19 of Agenda 21:

Environmentally Sound Management of Toxic Chemicals



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Executive Summary

Despite chemical contamination of the environment with potential human health implications, it is well established that chemicals are essential for national, regional and global development. Consequently, there is a worldwide awareness that to achieve development, chemicals must be produced and used in a sustainable way, i.e. in a way which does not pose harm to human health and the environment and which safeguards natural resources from degradation. National authorities need to evaluate risks posed by chemicals and to develop risk management strategies adapted to local circumstances including broad-based approaches to reducing the risks from toxic chemicals, taking into account their entire life cycle. In most countries, national capabilities and capacities for the promotion of chemical safety need strengthening whilst in developing countries and countries in transition extensive support is required particularly from the international community.

A great deal of work has been accomplished by the UN organizations and programmes and other agencies to assist at global, regional and national levels in the environmentally sound management of chemicals. This work has been critical for the assessment of the potential risks and for assisting countries in managing risks posed by chemicals in many contexts.

To more effectively use scarce resources, international coordination and cooperation is seen as essential for the successful implementation of Chapter 19 of Agenda 21. Consequently, proposals call for an enhanced international cooperation through a strengthened IPCS, involving not only WHO, ILO and UNEP, but also the FAO, UNIDO, OECD and the CEU, and an Intergovernmental Forum on Chemical Safety which will recommend concerted international strategies and foster understanding by governments of issues related to the implementation of Chapter 19.

In order to successfully implement the activities needed to address and resolve each of the Programme Areas of Chapter 19, the pooling of expertise available within international organizations and public and private sectors at the national level is essential.

For more effective implementation of the objectives of Chapter 19, the following needs have been identified for the different Programme Areas:

Programme Area A:

Expanding and accelerating international assessment of chemical risks

New and innovative ways of producing internationally accepted assessments of a large number of chemicals have to be developed to better utilize national and international resources. Internationally harmonized approaches for conducting and reporting risk assessments are vital for effective cooperation in this area.

Guidance for setting national limits for exposure to chemicals from different media, and guideline ranges based on internationally accepted assessments are needed to assist national authorities taking decisions for the management of chemical risks.

Programme Area B:

Harmonization of classification and labelling of chemicals

Significant progress has been made with the technical work of developing a globally harmonized system for classification of chemicals, but there is a need to further strengthen coordination by involving all relevant international organizations.

An international framework for translating the result of technical work on harmonization into an instrument or recommendations applicable legally at the national level needs to be developed through appropriate international consultation.

Programme Area C:

Information exchange on toxic chemicals and chemical risks

Continuous efforts are needed to strengthen international information exchange networks, to encourage the creation of national or regional chemical information centres, and to enhance the participation of developed and developing countries in, and contribution to, these networks.

UN bodies/programmes and other international organizations need to strengthen their efforts to make sure that the information available internationally, and the methods for accessing it, meet user requirements worldwide. Attention should be paid particularly to the areas of risk assessment, cleaner and safer technologies, and chemical emergency preparedness and response.

In order to protect human health and the environment from exposure to hazardous chemicals, the UN bodies and programmes should continue to assist countries in the implementation and enforcement of the PIC procedure for banned and severely restricted chemicals and encourage implementation of the ILO conventions on chemicals and major industrial accidents at the national level.

Programme Area D:

Establishment of risk reduction programmes

Although risk reduction activities are primarily national in nature, all relevant UN organizations and programmes, intergovernmental bodies and the private sector should actively participate via information exchange and capacity building activities. There is also a need to strengthen efforts to assist countries to implement the relevant conventions and recommendations of UN bodies.

UN and other international organizations should facilitate immediate action in developing countries to reduce specific risks that are both readily identifiable and controllable, especially where significant benefits can be achieved at relatively small cost.

UN bodies and programmes and other international organizations should continue their support of specific risk reduction initiatives, particularly pollutant release and transfer registers, pesticide safety and the development of safer substitutes. There is also a need for these organizations to assist at national level in the implementation of internationally agreed systems concerning the prevention, preparedness and response to major industrial accidents and in the establishment of poison control centres.

Programme Area E:

Strengthening of national capabilities and capacities for management of chemicals

UN bodies and other international organizations, with the support of countries with advanced chemical management systems, should give highest priority to the strengthening of national capabilities to manage chemicals safely via, for example, national and regional training. They should also assist countries prepare national profiles to indicate their capabilities and capacities for the management of chemicals and support the development of appropriate strategies to implement and enforce chemical risk management measures. There is a clear need to improve the coordination of education, training and technical assistance activities among international bodies, national governments and NGOs.

Programme Area F:

Prevention of illegal traffic in toxic and dangerous products

There is an urgent need to increase international efforts to assist countries in the development and enforcement of legislation to control the illegal movement of toxic chemicals. Furthermore, appropriate international legal instruments, including one on the mandatory application of the PIC procedure need to be elaborated and eventually adopted.

Environmentally sound management of toxic chemicals

Although much progress has been made towards the environmentally sound management of toxic chemicals, additional financial and human resources are needed both at the international and national level to meet the needs for more effective implementation of all Programme Areas of Chapter 19. The current lack of appropriate reporting mechanisms complicates the analysis of national and international expenditures in this respect.

Further analysis of current international efforts and requirements for the effective implementation of Chapter 19 also reveals the need for:

- development of economic instruments and incentives at the national level to provide the financial resources necessary for implementation of Chapter 19, and of means of measuring and evaluating long-term benefits;
- provision of increased technical and scientific input from countries to further support the international initiatives including additional active participation of NGOs in the assessment process, including information exchange, and a wider distribution throughout the community of hazard risk information;
- enhancement of public awareness of hazards and risks from chemicals including effective risk communication;
- development of effectiveness indicators against which progress towards the implementation of Chapter 19 can be measured and readily comprehended;
- consideration of the value of examining in a more integrated manner sectoral themes within different chapters of Agenda 21, including chemicals, chemical pollution hazards and wastes as well as risk reduction programmes, thus ensuring that chemicals and chemical issues are adequately addressed.

1 Introduction

The United Nations Conference on Environment and Development (UNCED) affirmed that chemicals are essential for the development process, but they must be managed in a way that prevents them harming human health and the environment. UNCED recognized that a great deal remains to be done to ensure the environmentally sound management of toxic chemicals, within the principles of sustainable development and the improvement of quality of life for humankind.

There are two main obstacles to the environmentally sound management of chemicals. First, there is a fundamental lack of knowledge of the risks that many chemicals pose to human health and the environment, an essential prerequisite for sound management. Second, there is a lack of capability and capacity, particularly in developing countries, to manage chemical risks.

UNCED acknowledged the large number of national and international initiatives concerned with chemical safety. However it saw a need for, and proposed that, international cooperation relating to the environmentally sound management of toxic chemicals be enhanced. Implementation of this proposal is discussed in Section 2.

UNCED identified, in Chapter 19 of Agenda 21, six technical Programme Areas for intensive action. The objectives and future directions for each Programme Area are outlined in Section 3, with details of existing activities (pre-UNCED) and recent developments being provided in Annex 1. The scope of Section 3 is not limited to relevant activities within the UN system. The activities of the Organization for Economic Cooperation and Development (OECD) and the Commission of the European Union (CEU) relating to the management of chemicals are also reported because of their great significance at a global level.

Section 4 addresses issues for policy development and financial implications for the UN system in the context of related intergovernmental and national activities. The financial information provided includes the financial input from the UN system, where known, into the different Programme Areas of Chapter 19.

Issues of importance in relation to the implementation of Chapter 19 are suggested for consideration by the Commission on Sustainable Development (CSD) in Section 5. Particular attention is paid to ways of supporting the role played by the UN system.

Although the title of Chapter 19 of Agenda 21 refers to toxic chemicals, the Chapter is in practice considered by the international community to address all kinds of risks to human health and the environment caused by chemicals, except radioactive risks. This broader interpretation of the scope of Chapter 19 is followed in this report. Specific issues of wastes and pollution, although interrelating closely with the environmentally sound management of chemicals, are dealt with primarily in other chapters in Agenda 21 and are therefore only briefly mentioned in this report.

2 Recent Enhancement of International Cooperation Relating to the Environmentally Sound Management of Chemicals

At the request of the UNCED Preparatory Committee, a meeting of government-designated experts was held in London in December 1991. It made recommendations for increased coordination among United Nations bodies and other international organizations involved in chemical risk assessment and management. The meeting called for the role of the International Programme on Chemical Safety (IPCS) to be enhanced and for the establishment of an intergovernmental forum on chemical risk assessment and management. UNCED recommended that the conclusions of the London meeting be further considered.

Improved cooperation between international intergovernmental bodies is the particular aim of a strengthened IPCS; improved cooperation between governments is a particular aim of the intergovernmental forum.

Strengthening of IPCS

IPCS, which was set up in 1980, is a joint programme of three cooperating organizations: the World Health Organization (WHO), the United Nations Environment Programme (UNEP) and the International Labour Organization (ILO).

Agenda 21 (paragraph 19.6) recommends that collaboration in the IPCS should be the nucleus for international cooperation on the environmentally sound management of toxic chemicals, and that all efforts should be made to strengthen this programme. Cooperation with other programmes, such as those of the OECD and the CEU, and other regional and governmental chemical programmes, should be promoted.

In response to this proposal, IPCS has developed plans to broaden the membership and widen the scope of the programme. Negotiations with the Food and Agriculture Organization of the United Nations (FAO), the United Nations Industrial Development Organization (UNIDO) and the OECD, as potential additional cooperating organizations, are well advanced. A close but different type of association with the CEU is also being considered.

A strengthened IPCS is regarded as a cooperative undertaking among independent, intergovernmental organizations or programmes that, within the framework of their own respective constitutional mandates, consent to work together to promote the environmentally sound management of chemicals. In addition, member states and groupings of member states of cooperating organizations would be encouraged to support IPCS. Collaboration with other organizations and bodies, e.g. non-governmental organizations (NGOs), the scientific community and the private sector, would also be important.

The strengthened IPCS will provide the mechanism to catalyze and coordinate activities in relation to chemical safety, including capacity building (technology transfer/institutional development, human resource development and public education, including promotion of risk communication and risk reduction) and promotion of research, and in particular the activities listed in Annex 2.

Intergovernmental Forum on Chemical Safety

Agenda 21 (paragraph 19.76) states that to further consider the recommendations of the London meeting and initiate action on them, as appropriate, the Executive Heads of WHO, the ILO and UNEP are invited to convene an intergovernmental meeting within one year, which could constitute the first meeting of the intergovernmental forum.

In response to the invitation of Agenda 21, the Executive Heads of UNEP, the ILO and WHO decided to convene an International Conference on Chemical Safety (ICCS) to be held, upon the invitation of the Government of Sweden, in Stockholm on 25-29 April 1994. In order to assist these UN bodies prepare for the Conference, an informal consultation with governments, NGOs and other international organizations was held on 6-8 December 1993.

The aim of the Conference is to discuss the possible establishment of an Intergovernmental Forum on Chemical Safety. It is anticipated that the first meeting of the Forum will take place at the Conference. It is intended that the prime purpose of the Forum will be to enable government representatives to develop, by consensus, strategies for the implementation of Agenda 21, Chapter 19. Recommendations will be made to governments, international organizations and to intergovernmental bodies. Further details of the purpose, aims and functions of the Forum, as proposed in the draft terms of reference of the Forum, are provided in Annex 3.

Other initiatives

Following the High Level Meeting on Cooperation and Sustainable Development in the Chemical Industry organized within the framework of the UN Economic Commission for Europe (UN/ECE), in cooperation with the European Chemical Industry Council (CEFIC) and with the support of the CEU, a programme entitled Chemical Industry – Sustainable Economic and Ecological Development (CHEMISEED) is being implemented by the UN/ECE. Currently four projects falling under this programme are targeted at promoting sustainable industrial development and facilitating assistance to countries in transition to a market economy within the UN/ECE region.

3 The Six Programme Areas of Chapter 19

For each Programme Area, the objectives and future directions are presented below, with additional information on existing activities and recent developments presented in Annex 1.

The information below and in Annex 1 draws heavily on, respectively, the discussion and background papers prepared for the ICCS (IPCS/ICCS/94.6 and 94.5). In addition UN bodies/programmes and some other international organizations known to be active in the area of Chapter 19 were asked to contribute material to this report (see Annex 4). An attempt has been made to maintain an appropriate balance between the various activities and Programme Areas, although this has not been easy to do. It should be noted that a detailed inventory of activities currently undertaken by UN bodies/programmes, the OECD, the CEU and the World Bank has been produced by IPCS (IPCS/CG-HCCS-4/93,12).

There is a close interrelationship between the Programme Areas of Chapter 19, with some activities being relevant to more than one Programme Area. Hence there is some cross referencing in this section and in Annex 1.

The account of future directions in the six Programme Areas highlights major issues and suggests how appropriate UN bodies/programmes could usefully contribute. However it is important to stress that much of the future work within the UN system will be greatly influenced by matters to be resolved in the near future, i.e. the outcome of the ICCS and the work programme of the strengthened IPCS.

Expanding and accelerating international assessment of chemical risks

OBJECTIVES

The objectives (as stated in Chapter 19) are:

to strengthen international risk assessment. Several hundred priority chemicals or groups of chemicals, including major pollutants and contaminants of global significance, should be assessed by the year 2000, using current selection and assessment criteria;

to produce guidelines for acceptable exposure to a greater number of toxic chemicals, based on peer review and scientific consensus distinguishing between health or environment-based on exposure limits and those relating to socio-economic factors.

FUTURE DIRECTIONS

In order to achieve the target for the year 2000 (to assess several hundred priority chemicals or groups of chemicals), it is suggested that evaluations of 200 chemicals, particularly high production volume chemicals which have not been thoroughly evaluated before, should be finalized by 1997. If the 1997 target is met another target of a further 300 chemicals should be set for the year 2000.

Whilst several types of international assessments are available, IPCS Environmental Health Criteria (EHC) documents are the most comprehensive and authoritative toxicological evaluations of chemicals. The production of such evaluations is a resource intensive activity. At present IPCS produces an average of 14 EHCs a year. The time frame for producing such a document is at least two years.

Meeting the goals for 1997 and 2000 by producing more EHCs would require an enormous increase in resources. Although it may be possible to streamline the production of EHCs without compromising their scientific value, other ways of meeting the goals also need to be carefully considered. It is important to assess whether the goals could be met by establishing cooperative arrangements with other international organizations, such as the OECD and the CEU, and national authorities.

In many cases, circumstances (toxicological data, use pattern, etc.) may suggest that a less comprehensive, yet well documented, scientific evaluation would suffice. In this context, it is also important to consider what type of risk assessment documents would meet the various user needs; more attention should be paid to this aspect by UN bodies/programmes.

Accelerated production of internationally acceptable risk assessments will be facilitated by the documentation and risk assessment procedures being in accordance with internationally agreed guidelines, and by peer review of assessments being internationally based. Appropriate UN bodies/programmes, such as IPCS, should enhance their support of initiatives to agree harmonized approaches for the conducting and reporting of risk assessments.

Accelerated production of assessments is also dependent upon additional resources being allocated nationally and internationally, and for there to be much better coordination to prevent the frequent duplication of effort that has occurred in the past.

Agenda 21 recommends that current selection criteria be used to identify priority chemicals for assessment by the year 2000. However, rationalization of risk assessment activity at the international level would be aided by greater transparency and compatibility of different international and national priority setting schemes. More immediately, appropriate UN bodies/programmes may be able to assist in establishing agreed criteria for selecting chemicals for different types of risk assessment to be performed by the years 1997 and 2000.

The OECD and the CEU have taken very significant steps to encourage industry to generate and provide data of good quality on which to base chemical risk assessments. Such initiatives should be supported at the UN level and specific action should be taken to encourage the generation and dissemination of information from less developed countries, including good quality epidemiological and clinical data. Appropriate UN bodies/programmes should also encourage further research and development for the better understanding of the potential risks from exposure to chemicals and for the reduction in use of vertebrate animals in toxicity testing by the adoption of valid alternative methods.

International organizations have had significant involvement in the second objective of the Programme Area, i.e. the provision of guidelines for acceptable exposure to chemicals. However, more attention should be paid by UN bodies/programmes to providing guideline ranges for occupational exposure to chemicals in the air. In addition, appropriate UN bodies/programmes should establish scientific methods and principles for translating chemical risk assessments into health and environment based guideline values for exposure. They should also encourage the inclusion of guideline values for exposure limits in published risk assessments.

The criteria (health, environmental, socio-economic, technical feasibility) used by countries in defining acceptability for exposure limits should be examined by appropriate UN bodies/programmes.

Harmonization of classification and labelling of chemicals

OBJECTIVE

The objective (as stated in Chapter 19) is that a globally harmonized hazard classification and compatible labelling system, including material safety data sheets and easily understandable symbols, should be available, if feasible, by the year 2000.

FUTURE DIRECTIONS

Progress is being made with the technical work on classification criteria but there is still a great deal to be achieved, particularly in establishing compatible hazard communication systems (including compatible labelling and safety data sheets). UN bodies/programmes and other international organizations are collaborating well in the coordination of this work. However, there is a need to further strengthen this coordination by involving all relevant international organizations. In addition, mechanisms are needed to gain the involvement of developing countries.

An international framework for translating the result of the technical work on harmonization into an instrument or recommendations applicable legally at the national level needs to be developed through appropriate international consultations.

In order to achieve the objective, governments should agree to increase rapidly and substantially their level of technical input and also ensure that, as recommended by UNCED, adequate human and financial resources are made available to the international organizations and programmes responsible for coordinating this work. In addition, countries could greatly facilitate progress by developing a consistent national position, e.g. between different ministries, on the harmonization of classification systems.

In addition to the current IPCS Coordination Group for the Harmonization of Chemical Classification Systems (CG/HCCS), a more formal setting is needed to address and resolve technical issues for which consensus could not be reached because of legal and economic implications.

Information exchange on toxic chemicals and chemical risks

OBJECTIVES

The objectives (as stated in Chapter 19) are:

to promote intensified exchange of information on chemical safety, use and emissions among all involved parties;

to achieve by the year 2000, as feasible, full participation in and implementation of the Prior Informed Consent (PIC) procedure, including possible mandatory applications through legally binding instruments contained in the Amended London Guidelines for the Exchange of Information on Chemicals in International Trade and in the FAO International Code of Conduct on the Distribution and Use of Pesticides, taking into account the experience gained within the PIC procedure.

FUTURE DIRECTIONS

The effectiveness of the many UN and international initiatives in this Programme Area could be enhanced by establishing a coordinating mechanism for these initiatives. These organizations should also take steps to ensure that both the types of information exchanged and the methods for transferring the information are tailored to the needs of the major users (see also Programme Area A with respect to risk assessment documents).

Appropriate UN bodies/programmes could improve their service by taking action to implement and facilitate the following recommendations:

- national and regional institutions, together with national, regional and international networks, responsible for information exchange on chemical hazards and risks should be created or strengthened. Full advantage should be taken of the information dissemination capacities of all

governmental, intergovernmental and non-governmental organizations;

- sources of information useful to responding to chemical emergencies should be established or strengthened, as necessary, and access to them should be readily and rapidly available;
- promotion of the general production, availability and exchange of information in electronic form;
- improvement of the access of developing countries to existing international and regional data sources, including commercial databases, and to information on cleaner and safer technologies;
- increasing data contributions, including expert risk assessments, from national sources and from other programmes such as the CEU EUCLID data bank to international data banks, such as that of the International Register of Potentially Toxic Chemicals (IRPTC);
- creation of a directory of data banks relevant to chemical safety, including an indication of their scope and those with validated data;
- further development of methods/standards for indicating data quality (this is related to harmonized approaches for reporting studies in risk assessment documents; see page 9, and A9 in Annex 1);
- promotion of a harmonized format for reporting surveillance and monitoring data.

With respect to banned and severely restricted chemicals, appropriate UN bodies/programmes (particularly UNEP and the FAO) should continue to facilitate implementation and enforcement of the PIC procedure, together with supporting appropriate training. UNEP should continue its work to develop modalities for an international legally binding instrument for the mandatory application of the PIC procedure. In addition, implementation of the relevant provisions of ILO conventions concerning chemicals and major industrial accidents should be encouraged.

■ Establishment of risk reduction programmes

OBJECTIVE

The objective (as stated in Chapter 19) is to eliminate unacceptable or unreasonable risks and, as far as economically feasible, to reduce risks posed by toxic chemicals by employing a broad-based approach involving a wide range of risk reduction options and by taking precautionary measures derived from a broad-based life cycle analysis.

FUTURE DIRECTIONS

Many countries lack national risk reduction programmes. Attempts should be made by appropriate UN bodies/programmes to facilitate immediate action in these countries to reduce specific risks that are both readily identifiable and readily controllable, especially where benefits can be achieved at relatively small cost. Such actions in less developed countries might for example include the improvement of simple hygiene and management practices at places of work. Other actions, sometimes more costly, could be the disposal of unwanted pesticides, the introduction of better emission control technology and the clean-up of chemical waste sites. In all countries, greater public awareness of chemical risks would be an important means of reducing these risks.

It has been suggested that a number of reports dealing with risk reduction be prepared by 1997 for the Intergovernmental Forum on Chemical Safety. Appropriate UN bodies/programmes should help to

prepare these reports, covering:

- the progress and experience of governments in national risk reduction programmes in order to serve as a basis for setting goals for the year 2000. The report should address the wide range of possible risk reduction approaches (as indicated under this Programme Area in Chapter 19 of Agenda 21), including the value of more closely integrating chemicals control and pollution control initiatives;
- the feasibility and usefulness of extending pollutant release and transfer registers to more countries, including newly industrialized countries;
- the progress countries have made in reducing pesticide risks by promoting the use of adequate safer pesticides, as well as the decreased use of pesticides through integrated pest management including the introduction of non-chemical alternatives.

Appropriate UN bodies/programmes should continue to seek better ways to coordinate and increase their assistance, at national level, in the implementation of internationally agreed systems concerning the prevention, preparedness and response to major industrial accidents and in the establishment of poison control centres.

As part of a longer term objective, appropriate UN bodies/programmes should encourage efforts to find substitutes for harmful chemicals, the development and use of safer technologies and processes, and the implementation of effective preventive and protective measures.

Strengthening of national capabilities and capacities for management of chemicals

OBJECTIVE

The objective (as stated in Chapter 19) is that by the year 2000, national systems for environmentally sound management of chemicals, including legislation and provisions for implementation and enforcement, should be in place in all countries to the greatest extent possible.

FUTURE DIRECTIONS

In expanding work in this area, appropriate UN bodies/programmes should take account of the UN Development Programme (UNDP) initiative on capacity building, Capacity 21. Chapters 36 and 37 of Agenda 21 (promoting education, public awareness and training; national mechanisms and international cooperation for capacity building) are also relevant. In all efforts to improve chemical safety it should be borne in mind that prevention is better than cure.

Given the enormous amount that has to be achieved in this area there is a need not only for additional funding and support from the developed countries but also a need to think innovatively about how to make best use of existing systems and resources, for instance by encouraging bilateral assistance arrangements between developed and less developed countries and by encouraging efficient regional cooperation. It must be emphasized that in the case of assistance programmes the involvement of countries requiring assistance in planning, and their continued commitment and follow-through action, are prerequisites for success.

As a long term basis for work to increase national capabilities and capacities for the management of chemicals it is valuable to have up-to-date national profiles indicating the current status and future needs in this area. It is suggested that such profiles should be elaborated in all countries as soon as possible and not later than 1997.

Several of the activities discussed under Programme Areas B, C and D are important means of establishing and strengthening national capabilities and capacities. However, without adequate national legislation, and the capacity for implementation and enforcement, not much can be achieved. Therefore, governments in less developed countries, with appropriate UN and other assistance, must take action to establish and strengthen progressively the national legal basis for chemical safety. To begin with, comprehensive legislation may not be necessary.

Guidelines concerning the basic areas and issues where the necessary chemical safety measures need to be developed may be helpful. Efforts by UNEP and IPCS to develop such guidelines should be encouraged. One basic area which should rapidly and readily be covered concerns the import of toxic chemicals. In addition to adherence to the PIC procedure, active collaboration between specialists in chemical safety and customs authorities has proved to be cost effective.

Agenda 21 suggests that consideration should be given to establishing and strengthening, where appropriate, a national coordinating mechanism for all parties involved in chemical safety activities. It is suggested that such a mechanism be established in the majority of countries by 1997. This would encourage the better appreciation of chemical safety matters in all relevant sectors. Policy workshops at the sub-regional and national levels, which involve appropriate ministries, can facilitate the development of such coordinating mechanisms.

Further education programmes and training courses to support capacity building should be arranged at the national and regional level. There is a particular need to provide a core of trained people, such as technical staff and policy-makers, in developing countries. Activities concerning education and training, as well as technical assistance, are currently taking place under the sponsorship of various international bodies, national governments and non-governmental organizations. However, there has been a lack of coordination resulting in numerous overlaps and gaps. Hence there is a need to improve coordination in this area, building on the initiative described in paragraph A70 of Annex 1.

Attention should be paid to ensure that, in all countries, national legislation concerning the transport of dangerous goods should be established on the basis of the UN Recommendations on the Transport of Dangerous Goods (UN RTDG), and that legislation is regularly updated whenever the Recommendations are revised, especially in the context of a globally harmonized chemical classification system. As longer term objectives, appropriate UN bodies/programmes should assist countries to establish national information systems for chemical safety (see Programme Area C), including national chemical registers, and assist in the collection of local data on chemicals and chemical products.

Prevention of illegal international traffic in toxic and dangerous products

OBJECTIVES

The objectives (as stated in Chapter 19) are:

to reinforce national capacities to detect and halt any illegal attempt to introduce toxic and dangerous products into the territory of any State, in contravention of national legislation and relevant international legal instruments;

to assist all countries, particularly developing countries, in obtaining all appropriate information concerning illegal traffic in toxic and dangerous products.

FUTURE DIRECTIONS

In order to prevent international illegal traffic in toxic and dangerous products, national chemicals control legislation should be elaborated in all countries. In parallel, appropriate international legal

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instruments, including an international legally binding instrument on the mandatory application of the PIC procedure, should be elaborated and eventually adopted.

International measures to control illegal traffic should be taken on a consistent basis in cooperation with all parties concerned, in particular with the appropriate transport and chemical industries, and should not unnecessarily impede legitimate trade in chemicals.

As a complement to such international control measures, voluntary action by industry and other relevant parties to enhance the safety of chemicals in international trade should be strongly encouraged, including the adoption and implementation of a code of ethics on the international trade in chemicals currently being developed under the auspices of UNEP (see paragraph A44 in Annex 1).

4 Issues for Policy Development and Financial Implications

This section addresses decision-making and financial implications for the UN system in the context of related intergovernmental and national activities. It is recognized that responsibility for environmentally sound management of chemicals applies at all levels of society, from individuals to national authorities. Information and finance are fundamental for effective action.

Needs for sustainable development

Chemicals are essential for the development process. However, to achieve sustainable development governments must ensure that chemicals are used in a sustainable way, i.e. in a way which does not pose harm to human health and the environment and which safeguards natural resources from degradation. Scientific assessment of the risks that a chemical may pose during any stage of its life cycle (from production to disposal) is an essential prerequisite for risk management. UN bodies/programmes can help countries to assess risks and can also provide guidance on risk management measures. When applying these measures governments need to take account of any cost-effectiveness information available and local circumstances. Such local circumstances should *inter alia* include climatic considerations, socio-economic factors, available natural resources and sensitive populations or areas. It is expected that considerable socio-economic benefits will accrue through improved human health and welfare and environmental quality as a result of such a strategy.

To finance the environmentally sound management of chemicals, income from manufacture, trade and use must be used to a greater extent. Although some of this income is already used in this way, additional fiscal measures should be considered to strengthen support to national and international work in this area.

In the pre-UNCED assessment of funding needs, the cost of management of chemicals in industrialized countries was calculated at 0.15% of the value of the chemicals manufactured or imported. It was assumed that the same ratio would apply for developing countries – an estimated cost of US\$500-600 million. It was suggested that 20% of the total, or US\$100-150 million, be concessional finance provided by the international community to developing countries.

Capacity building

The environmentally sound management of chemicals is a large and complex issue. It requires informed decision-making for the assessment and management of risks posed by chemicals in many contexts, i.e. in agricultural and industrial production, trade, use, health and environmental protection and so on. In most countries there is a need to strengthen significantly national capabilities and capacities for the promotion of chemical safety. This is particularly the case in developing countries and countries in economic transition, where capabilities and capacities are very limited. Given the enormous amount that has to be achieved in these countries there is a need not only for additional funding and support from countries with advanced chemical management systems, but also a need to think innovatively about how to make best use of existing national resources as well as international experience and expertise.

The less developed countries require the support of the international community. Such support can include, *inter alia*, information, technical assistance, education and training. There is ongoing support in these areas both through bilateral and multilateral arrangements but coordination between the different agencies and programmes needs to be much improved. In addition, the involvement of receiver countries in planning, and their continued commitment and follow-through action, are prerequisites for success.

■ Coordination and cooperation

There are many separate activities within the UN system which are carried out in support of national efforts to implement Chapter 19. Enhanced coordination and cooperation will be essential for effective use of human and financial resources, in particular in capacity building at the national level. It should be remembered that although the process of coordination is often initially difficult, there are significant overall benefits (e.g. greater impact on global problems through shared costs/resources and integrated planning, more immediate communication and less chance of misunderstandings, harmonization of approaches, etc.).

As indicated above, one of the benefits of coordination and cooperation is that they make it possible to achieve international harmonization/compatibility of approach. A practical example of this is the extent to which the UN RTDG have been used as a basis for so many national and international transport regulations/instruments.

International harmonization and compatibility of procedures, including use of harmonized terminology, are important for effective risk assessment, information exchange and risk management. UN bodies/programmes are ideally placed to encourage harmonization and compatibility at an international level.

Harmonization and compatibility are of benefit to all parties, not least to industry which actively supports such initiatives as a means for preventing competitive disadvantages (particularly with respect to harmonized test guidelines, registration/notification requirements, classification and labelling systems and risk reduction measures).

Another advantage of cooperation is that it allows a greater pool of expertise to be tapped. In contrast to most UN bodies/programmes, public and private sector bodies, including NGOs in many developed countries, contain a wealth of scientific and technical expertise in the area of chemical safety which could be harnessed to a much greater extent to promote UN initiatives in the six Programme Areas of Chapter 19.

A major initiative to enhance coordination and cooperation within the UN system, and with other intergovernmental agencies, to achieve more coherent and better integrated programmes for the implementation of Chapter 19, has been the significant steps taken to strengthen and expand IPCS.

Another important initiative at the intergovernmental level is the proposal to set up an Intergovernmental Forum on Chemical Safety, which will recommend concerted international strategies and foster understanding by governments of issues related to the implementation of Chapter 19, thereby complementing the work of the newly strengthened and expanded IPCS.

■ Awareness of the general public

Public awareness of chemical risks is an indispensable vehicle for the effective management of chemicals. Some risk reduction initiatives, e.g. pollutant release and transfer registers, pay particular attention to keeping the public informed. However, it is important to enhance risk communication and promote the production and dissemination of hazard and risk information associated with chemicals in a form that can be correctly interpreted by the general public within the comparative context of other lifetime risks.

■ Implementation of international guidelines and legal instruments

A number of UN bodies establish guidelines and legal instruments in the area of chemical safety. These are developed after extensive discussion among governments with the participation, if appropri-

ate, of intergovernmental bodies and NGOs including industry. However they are only of practical use if countries have the will and ability to implement them, e.g. by introducing appropriate national legislation, and have the capacity for enforcement.

Effectiveness indicators

Chapter 40 of Agenda 21 discusses the need for indicators of sustainable development at the national and international level. Specific indicators are required to measure progress towards meeting the objectives of each Programme Area within Chapter 19 and their usefulness as a tool to measure progress towards meeting the overall objective of Agenda 21, i.e. sustainable development.

Cost of enhanced international cooperation

IPCS:

The cost for providing the basic infrastructure for coordination within the newly strengthened and expanded IPCS is estimated to be approximately US\$600,000 per annum during 1994-95, to be shared among those organizations agreeing to participate in the work of coordination through IPCS.

The Forum:

IPCS has been responsible for making the necessary preparations for the International Conference on Chemical Safety, where the first Intergovernmental Forum on Chemical Safety is expected to be established. The cost of preparing for and holding the Conference has been approximately US\$1 million, of which about one third has been provided by the UN system.

It is estimated that a fully operational secretariat for the forum and its subsidiary bodies would cost approximately US\$1 million per annum depending *inter alia* on the work proposed by the Forum.

International costs of individual Programme Areas

The costs and spending reported below reflect those of UN bodies and programmes in relation to the implementation of the different Programme Areas and do not include those costs associated with research, and implementation and compliance with risk reduction. It should be noted that analysis of the current funding situation is severely limited by the lack of a harmonized format for reporting financial data, resulting in inaccurate and inconclusive information.

Programme Area A:

Agenda 21 estimates that some US\$30 million per annum would be needed to meet the first objective of this Programme Area, i.e. of accelerating chemical risk assessment work such that by the year 2000 some 500 chemicals would have been assessed and appropriate information disseminated. Currently, the UN system reports spending a total of some US\$10 million on all aspects of the implementation of this Programme Area. These costs do not include costs associated with research and data generation.

Programme Area B:

Agenda 21 estimates that some US\$3 million per annum would be needed to strengthen the capacities of international organizations to coordinate the work of harmonization. Currently less than US\$500,000 per annum are spent in this Programme Area by the ILO, the only organization providing cost figures.

Programme Area C:

Agenda 21 estimates that US\$10 million per annum would be required to implement this Programme

Area. Current spending of UN organizations in this area is estimated at approximately US\$4 million.

Programme Area D:

There was no comprehensive estimate of costs made for this Programme Area during UNCED and incomplete figures have been provided by the UN agencies. In the field of training and strengthening emergency and poison control centres, it was estimated that some US\$4 million per annum would be required. Current funding levels for international work in this field is approximately US\$1.8 million per annum.

Programme Area E:

As referred to on page 15, 0.15% of the value of chemicals manufactured or imported was calculated as the cost of management of chemical risks. UNEP has reported current costs of its programme in this area to total approximately US\$1 million per annum.

Programme Area F:

No estimate is included in Agenda 21. The estimated budgets for the 1994-95 biennium amount to US\$750,000 per annum as a minimum.

5 Issues for Consideration by the CSD

The following actions are proposed for consideration and endorsement by the CSD to reflect the increased effort and support necessary for the effective implementation of Chapter 19. Particular attention is paid to ways of supporting the role played by the UN system.

Needs for sustainable development

In order to finance the environmentally sound management of chemicals, countries should be urged to develop appropriate economic instruments, e.g. taxes or levies, to strengthen the management of chemicals throughout their life cycle. Increased finance, raised nationally, would enable countries to make a greater contribution to international activities and to enhance international cooperation in this field.

Governments should furthermore provide industry with economic incentives for undertaking the environmentally sound management of chemicals.

Capacity building

International and national organizations should give higher priority to capacity building for the successful implementation of Chapter 19 at the national level.

Governments, with the assistance of relevant international organizations and programmes, should develop national profiles to indicate the current capabilities and capacities for the management of chemicals, the need for guidelines for chemical legislation and enforcement, and education, training and technical assistance. Countries with more advanced chemical management systems should provide information, training and technical assistance to other countries for the development of infrastructures and capacity to manage chemicals safely.

Governments should be encouraged to introduce measures to reduce risks that are both readily identifiable and readily controllable.

Countries with more advanced chemical management systems should consider ways of facilitating the transfer of cleaner and safer technology to less developed countries, bearing in mind the difficulties posed by the limited financial means of developing countries to gain access to this technology.

Coordination and cooperation

Increased coordination of UN bodies and other international organizations involved in chemical assessment and management is urgently needed to improve and enhance international cooperation and to avoid unnecessary duplication of effort. To share the burden of work, steps should be taken to facilitate the active participation of all major players on the international chemicals stage in the strengthened IPCS.

There is an urgent need to further develop and implement concerted international strategies for chemical risk assessment and management in all countries. Governments should therefore strongly support all efforts to strengthen the international cooperation on chemicals and the establishment of the Intergovernmental Forum on Chemical Safety.

International organizations should be urged to strengthen the harmonization of procedures and approaches for risk assessment, information exchange and risk management, including the harmonization of terminology.

Further efforts are required at the national and international level to ensure compatibility and comparability of data collection, processing and information exchange, since the validity of assessments depends on the quality of the information used.

Risk assessment is highly demanding of scientific resources and in order to meet the goals of Chapter 19 there is a need to join forces and increase the scientific input from all countries to the international arena for accelerated assessments of risks, and better interpretations of data. There is also a need for a better understanding of the mechanisms of toxicity and a need to develop and validate toxicity tests that reduce the use of vertebrate animals.

The technical work coordinated by the UN system which underpins harmonization/compatibility of classification and labelling (Programme Area B) also needs additional support from countries in order to meet the goals of Chapter 19.

In the area of information exchange (Programme Area C), there is a need for increased data contributions from national sources into international data banks, e.g. UNEP's IRPTC.

As part of a longer term objective in the area of risk reduction (Programme Area D) there is a need for the promotion, at both the national and international level, of the development of safer technologies and processes, and for safer substitutes for harmful chemicals.

Industry is a major player in furthering the objectives of Chapter 19, in particular with respect to risk assessment, including the generation and provision of data (Programme Areas A and C) and the adoption and implementation of risk reduction measures (Programme Area D). Industry should be encouraged to adopt a code of ethics on the international trade in chemicals which has been developed under the auspices of UNEP.

International organizations should make best use of the active participation by NGOs concerned with chemical risks posed to health and the environment, including workers and consumer groups. Such NGOs could contribute to information exchange (Programme Area C) and the wider understanding of harmonized classification and labelling (Programme Area B).

Awareness of the general public

Efforts should be made at the national and international level to ensure that the general public, and especially people at work, understand the meaning of labels and other ways of communicating risks and risk management measures.

Development of national legislation and implementation of UN system instruments

A strengthening of chemicals legislation is needed in all countries and is particularly needed in less developed countries undergoing rapid industrialization (Programme Area E).

To increase their effectiveness, legal and other instruments developed under the auspices of the UN system need to be more widely ratified and/or implemented at the national level. This wider implementation is particularly important for risk management/reduction initiatives (Programme Area D) and for the PIC procedure (Programme Area C). To prevent illegal traffic of toxic and dangerous products, international legal instruments, including one on the mandatory application of the PIC procedure, should be elaborated and eventually adopted.

Greater national efforts should be given to strengthening the enforcement of national legislation in order to more effectively control chemical risks.

Effectiveness indicators

It is important that the international community sets goals against which progress in the different Programme Areas can be measured. In preparation for a longer term objective, it is also important to start to consider ways of assessing the cost effectiveness of various Programme Areas and particular risk management undertakings and whether initiatives meet user needs.

Integration of management of chemicals, pollution and wastes

While Chapter 19 deals with chemicals *per se* it is complementary to other sectoral chapters dealing with hazardous wastes and chemical pollution. The CSD should consider the value of looking at these issues and their interlinkages from an integrated conceptual point of view, taking note of the activities of organizations such as WHO, UNEP, ILO, FAO, IPCS, UNIDO, OECD and others in risk reduction programmes.

Existing Activities and Recent Developments for the Six Programme Areas of Chapter 19

Expanding and accelerating international assessment of chemical risks

EXISTING ACTIVITIES

- A1** Data on the properties of and exposure to a chemical are required before a risk assessment can be conducted. Such data are provided primarily by industry, government and private sector research institutions. In order to achieve acceptance of data internationally, data quality and test method harmonization are important. Of particular note in this context are the activities of the OECD and the UN Committee of Experts on the Transport of Dangerous Goods (UN CETDG).
- A2** Chemicals often need to be prioritized for risk assessment. Hence a number of priority setting schemes have been developed, e.g. by IPCS, UNEP, the OECD and others.
- A3** Chemical hazards and risks have been assessed by international organizations for many years. Comprehensive toxicological evaluations are published by IPCS as EHC documents. Also important are toxicological evaluations of pesticide residues in food by the FAO/WHO Joint Meeting on Pesticide Residues (JMPR) and of additives, contaminants and residues of veterinary drugs in food by the FAO/WHO Joint Expert Committee on Food Additives (JECFA).
- A4** The International Agency for Research on Cancer (IARC) monographs on the Evaluation of Carcinogenic Risks to Humans and the OECD toxicological assessments of High Production Volume Chemicals are also important international initiatives. In addition, The Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP), which is sponsored by the UN, UNEP, FAO, WHO, the UN Educational, Scientific and Cultural Organization (UNESCO), the World Meteorological Organization (WMO), the International Maritime Organization (IMO) and the International Atomic Energy Agency (IAEA), evaluates the potential hazards of chemicals to the marine environment.
- A5** Risk assessment methodologies are published by several organizations, e.g. by the CEU, OECD, ILO and IPCS. IPCS, for example, promotes the development, validation and harmonization of toxicological risk assessment methodologies.
- A6** International organizations have had significant involvement in providing guideline limits for exposure to chemicals. Of note are the JMPR and JECFA evaluations which are used as a basis for recommendations by the Codex Alimentarius Commission (see paragraph A33), the WHO guidelines on drinking water quality, and the air quality guidelines for Europe produced by the WHO Regional Office for Europe (WHO EURO). The air quality guidelines are being updated and will be further evaluated with relevance to global air quality standards in collaboration with IPCS and the CEU. In addition, a series of criteria documents for setting occupational exposure limits is being published by the CEU.

RECENT DEVELOPMENTS

- A7** Publication in 1994 is anticipated of an IPCS EHC document on the scientific principles for assessment of risk to human health associated with chemical exposures (risk characterization is particularly addressed), and on the derivation of guidance values for health based exposure limits (particularly in relation to general public exposure).

A8

IPCS has recently undertaken, in cooperation with the OECD, a project aimed at harmonizing approaches used by countries or groups of countries in toxicological risk assessment. The OECD is responsible for the work on environmental assessment and human exposure methods, whereas IPCS is responsible for the work on human health effects. UNEP intends to support OECD work on environmental assessment, with respect to the needs and interests of developing countries. Recent progress on assessing physico-chemical hazards is referred to in paragraph A21. Development of legal, methodological and administrative guidelines and criteria for the determination of transboundary effects, including chemical risks, are being undertaken under the UN/ECE Convention on Environmental Impact Assessment (EIA) in a transboundary context.

A9

Another initiative of IPCS is aimed at rationalizing the worldwide production and acceptability of criteria documents (which describe toxic hazards and risks), including guidelines for reporting certain studies. As part of the initiative IPCS, UNEP's IRPTC and the European Chemical Industry Ecology and Toxicology Centre (ECETOC) are producing an inventory of all criteria documents that are planned, in preparation or published.

A10

During 1993, the CEU adopted a directive containing general principles for the assessment of risks posed by new substances to humans (workers, consumers, and the general public) and to the environment. The directive is supplemented by more detailed guidance documents which include strategies for investigating various toxicological properties, as well as approaches for assessing human and environmental exposure.

A11

Also in 1993, the CEU Regulation on the Evaluation and Control of the Risks of Existing Substances came into force. This Regulation foresees the collection of data, in a harmonized electronic format, for over 10,000 substances during the period 1994-98, and storage of that data on the EUCLID database. Detailed risk assessments will be conducted on priority substances.

A12

A number of organizations have new initiatives addressing risk assessment of pesticides. The OECD has a newly set up Pesticides Activity, with a major workshop planned to review progress in environmental assessment. A CEU directive concerning the placing of plant protection products on the market became effective in 1993; the CEU directive is supported by guidelines and criteria for evaluating pesticides. In addition, the scope of JMPR, to be renamed the Joint Meeting on Pesticides (JMP), will be gradually widened in 1994 to include consideration of public health, occupational health and environmental concerns.

Harmonization of classification and labelling of chemicals

EXISTING ACTIVITIES

A13

International initiatives to achieve the objective of this Programme Area started a few years before UNCED. Following a 1989 International Labour Conference Resolution, the ILO, in consultation with a number of international, regional and national bodies concerned with the classification and labelling of chemicals, initiated actions to ensure the establishment of a globally harmonized system, and issued a report assessing the size of this task. In 1990, the ILO adopted a Convention (No. 170) and a Recommendation (No. 177) concerning safety in the use of chemicals at work which included provisions related to classification criteria, labelling and chemical safety data sheets.

A14

The ILO report (1992) indicated that four major existing systems should be used as the basis for establishing a harmonized global classification and labelling system. These systems are: the UN RTDG; the CEU Directive 67/548/EEC, as amended for the seventh time (92/32/EEC), on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances; the combined system Toxic Substances Control Act/Hazard

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Communication Rule in the USA; and the combined system Workplace Hazardous Materials Information System/Environmental Protection Act in Canada.

A15

The UN RTDG were developed by the UN Committee of Experts on the Transport of Dangerous Goods (UN CETDG), which is serviced by the UN/ECE. The UN RTDG have been used as a basis for national and international transport regulations/instruments (see paragraph A38). There is close cooperation between international transport organizations in this area.

A16

In 1991-92 an OECD Clearing House, led by the CEU, Sweden and the USA was established to undertake the harmonization of classification criteria for acute oral toxicity and hazard to the environment. In 1992 an IPCS Coordinating Group for the Harmonization of Chemical Classification Systems (CG/HCCS) was established, with the ILO providing the Secretariat. This is an informal forum for interested national, regional and international bodies and organizations, including those representing the interests of workers, employers, industries, and bodies concerned with consumer and environmental protection. The CG/HCCS has agreed that the OECD will be the focal point for harmonization of all human health and environmental effects. The ILO will be the focal point for harmonization of physical hazards of chemicals and for hazard communication (labelling and chemical safety data sheets).

A17

Other international activities of relevance to this Programme Area are those undertaken in relation to the implementation of the ILO Chemicals Convention (1990) at national level, FAO guidelines on good labelling practice for pesticides, the peer-reviewed preparation of the IPCS International Chemical Safety Cards, and the elaboration of test methods by the OECD and the UN CETDG.

RECENT DEVELOPMENTS

A18

The OECD Clearing House has elaborated proposals for harmonized criteria for the classification of acute toxicity hazard categories (oral, dermal and inhalation). The overall perception seems to be that these proposals are an acceptable basis for further negotiation and that the impact of expected changes in different systems including to the UN RTDG, although not negligible, would be manageable.

A19

The OECD is preparing work plans to consider harmonization of criteria for hazard categories; toxic (long term), irritant, sensitizer, carcinogen, mutagen and toxic to reproduction. Preliminary work, at national expert level, has started on two categories: carcinogen and toxic to reproduction.

A20

The OECD Clearing House has elaborated proposals for harmonized criteria for aquatic toxicity based on those developed in the EU and the Nordic countries. It has also made preparations towards developing criteria for the soil/terrestrial environment.

A21

In the case of physico-chemical hazards, a report commissioned by the ILO indicates that harmonization work should start with the rationalization of testing methods. The ILO has requested, through the UN/ECE, the UN CETDG to consider the elaboration of proposals for harmonized criteria based on the ongoing revision of the Manual of Tests and Criteria for the UN RTDG.

A22

The International Occupational Safety and Health Information Centre of the ILO (ILO-CIS) has started to elaborate workplans for harmonization of hazard communication. In addition, IPCS and ILO-CIS have conducted a preliminary analysis of phraseology used in chemical safety data sheets.

Information exchange on toxic chemicals and chemical risks

EXISTING ACTIVITIES

A23

Collection and dissemination of information on chemicals and chemical risks is a task of most international organizations and programmes involved in the promotion of chemical safety. Many sources of information are available from UN bodies/programmes, and a selection of some of the more important sources are indicated below.

- IPCS publications include EHC documents, the shorter and less technical Health and Safety Guides, International Chemical Safety Cards and Poison Information Monographs. A computerized information package, called INTOX, for use by poisons information centres has also been developed by IPCS.
- IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans and the JECFA and JMPR Toxicological Monographs on certain chemicals associated with food should be noted (see paragraph A3).
- ILO-CIS collects and disseminates, with the aid of nearly 70 national centres, technical and legal information on occupational health and safety, with particular emphasis on chemicals and the prevention of major industrial accidents.
- IRPTC maintains a data bank with data profiles relevant for the assessment of hazards and risks posed by chemical substances to human health and the environment, a waste management file and a legal file with information on national and international regulatory control measures, etc.
- IRPTC also maintains a data bank to manage and implement the London Guidelines (see paragraph A24) and the PIC procedure. It contains information on chemicals which have been notified as being banned or severely restricted in one or more countries. It further contains decisions with regard to future imports of such chemicals taken by importing countries and Decision Guidance Documents providing information on these chemicals to assist countries in their decision-making process.
- A Consolidated List of Products Whose Consumption and/or Sale have been Banned, Withdrawn, Severely Restricted or Not Approved is prepared jointly by the UN, WHO and IRPTC.

A number of mechanisms for disseminating information has been developed and these are outlined below.

A24

- The London Guidelines for the Exchange of Information on Chemicals in International Trade were adopted by UNEP in 1987. The Guidelines, which are voluntary, provide a mechanism for governments to share scientific, technical, economic and legal information and thereby increase chemical safety. They were amended in 1989 to incorporate the PIC procedure. The PIC procedure has also been incorporated in the FAO International Code of Conduct on the Distribution and Use of Pesticides (see paragraph A37).
- UNEP and FAO have established a joint programme to assist governments, particularly of developing countries, in implementing the PIC procedure by providing operational assistance. Training and technical advice are organized jointly with the United Nations Institute for Training and Research (UNITAR).
- The ILO Chemicals Convention (1990) has provisions requiring exporting countries to provide information concerning banned or severely restricted chemicals.
- A Query Response Service has been operated by IRPTC since 1976 to answer queries about chemical safety. It is presently free of charge. ILO-CIS also runs such a service, aimed particularly at requests for chemical safety data sheets.
- The ILO maintains an International Hazard Alert System to provide information on newly identified hazards of specific chemicals.
- The General Agreement on Tariffs and Trade (GATT) has introduced a procedure whereby

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signatories give each other an opportunity to comment on proposed new technical certification or regulations, including those that might affect the domestic sale and importation of specific products.

RECENT DEVELOPMENTS

A25

UNEP has established a task force to consider modalities for a legally binding instrument on the mandatory application of the PIC procedure. A set of elements, which might be included in the instrument, has been identified and will be further elaborated by the task force in March 1994.

A26

IRPTC is presently working towards having in its network more active participation from other information systems. It is redesigning its computer system to facilitate electronic data interchange and the incorporation of data from external sources. It also intends to revise its strategy for the selection of data and plans to establish, in cooperation with IPCS, expert panels to validate the quality of information contained in its system. The resulting validated data sets are intended to provide a source of basic data of internationally recognized quality which are needed for assessing chemical risks in both national and international fora. It is expected that these validated data sets will facilitate the mutual acceptance of risk assessments between concerned groups and organizations.

A27

The IRPTC chemicals identity file is being expanded to assist developing countries set up their own national inventories of manufactured and imported chemicals.

A28

IRPTC is preparing to act as a repository of the OECD Screening Information Data Set (SIDS) dossiers to also allow distribution to non-OECD countries.

A29

IPCS, ILO-CIS and UNEP/IRPTC are preparing a UN CD ROM to include a number of databases on chemical safety information.

A30

UNIDO is planning to set up a global chemical safety information network for both chemical and pesticide production in developing countries, particularly aimed at small and medium-sized operations.

Establishment of risk reduction programmes

EXISTING ACTIVITIES

A31

The reduction of chemical risks is the ultimate goal of the environmentally sound management of chemicals. Risk reduction options include fundamental arrangements such as chemical safety legislation and enforcement, as well as other basic national means for the management of chemicals (Programme Area E), adequate labelling (Programme Area B), and responsible care and stewardship by industry. Establishment and implementation of the PIC procedure, dealt with under Programme Area C, is another general approach to risk reduction. The descriptions given below concentrate on selected specific approaches. It should be noted that pollution control and the management of hazardous wastes are related to chemical risk reduction but are focused on primarily in other chapters of Agenda 21.

A32

Chemical risk reduction activities are primarily national matters. Industry has a particular responsibility to contribute to the development and implementation of risk reduction measures. UN/ECE launched a pilot project demonstrating the environmental clean-up of selected sites polluted by chemicals in countries of Central and Eastern Europe with the regional CHEMISEED programme. In order to improve the environmental safety, health and quality performance of producers of chemicals in countries with economies in transition in the ECE region, the establishment of a Regional Environmental Management Centre for the Chemical Industry is under way.

- A33** **Reduction of chemical risks in food:** The joint FAO/WHO bodies JECFA and JMPR have for many years evaluated food additives, contaminants, pesticides and, more recently, veterinary drug residues in food. Based on these evaluations the Codex Alimentarius Commission, established in 1962 within the framework of the Joint FAO/WHO Food Standards Programme, recommends acceptable daily intakes (ADIs) in food and maximum residue levels (MRLs) in crops. The recommendations serve as guidelines for many countries in their regulatory work on food safety.
- A34** **Reduction of risks in the general environment:** WHO, through its regional offices, promotes the application of health based guideline values for chemicals in air and water.
- A35** **Reduction of chemical risks at the workplace:** Chemical safety in the workplace is promoted by the ILO. Among other things the ILO formulates international policies and programmes to help improve working conditions with respect to chemicals, and produces international labour standards to serve as guidelines to national authorities in putting these policies into action.
- A36** **Cleaner production:** UNEP operates a database providing information on cleaner production technologies and products.
- A37** **Reduction of pesticide risks:** The FAO has adopted an International Code of Conduct on the Distribution and Use Of Pesticides, which represents a wide consensus on pesticide management amongst governments, industry and NGOs. The Code is supplemented by guidelines for registration and control. UNCED proposed that the overdependence on agricultural chemicals be reduced through alternative farming practices, integrated pest management and other appropriate means. FAO has successfully assisted member governments in the implementation of integrated pest management (see also Task Manager's Report on Chapter 16). Measures to reduce the use of pesticides are also promoted by cooperative efforts by UNEP, FAO and WHO; the FAO and IAEA have also collaborated in this area. The ILO is concerned with pesticides as they relate to the health and safety of agricultural workers.
- A38** **Reduction of chemical risks during transport:** The UN RTDG address not only classification and labelling (see paragraphs A14 and A15), but also requirements for packing, multimodal tank transport and consignment procedures. The Recommendations are reflected in numerous national regulations and in a number of international instruments, including the International Maritime Dangerous Goods Code (under the auspices of the IMO) and the European Agreement concerning International Carriage of Dangerous Goods by Road (under the auspices of the UN/ECE). The Recommendations also influence emergency response approaches.
- A39** **Phasing out of CFCs:** Within the framework of the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer, as amended, a global risk reduction programme is in operation. UNEP was responsible for initiating these agreements.
- A40** **OECD chemical risk reduction programme:** The OECD has developed an international cooperative risk reduction programme. A small number of substances (lead, cadmium, mercury, methylene chloride and brominated flame retardants) have been selected by OECD Member countries for a pilot risk reduction project.
- A41** **Prevention of major chemical accidents:** There has been much activity by international organizations in addressing the prevention, preparedness and response to major chemical accidents at fixed installations. A key initiative was the CEU Directive on the major-accident hazards of certain industrial activities. This Directive, commonly known as the Seveso Directive, was adopted in 1982.
- A42** The ILO published a manual on major hazard control in 1988 and a Code of Practice on the Prevention of Major Industrial Accidents in 1991. Another key initiative is UNEP's Awareness and Preparedness

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for Emergencies at Local Level (APELL) Programme. This was launched in 1988, in cooperation with governments and industry. APELL's main goal is to prevent technological accidents and their impacts by assisting decision-makers and technical personnel to increase community awareness of hazardous installations and to prepare response plans to deal with unexpected events.

A43

Poison control programmes: IPCS has four main projects to support national poisons control programmes which, through a worldwide network of poison information centres and related medical and analytical toxicology facilities, provide information on a 24-hour basis. The projects address: how to set up and operate such centres and facilities; the efficacy of antidotes and various techniques for managing poisoned patients; development of a database of evaluated information on the diagnosis and treatment of poisoned patients, together with software for use by poisons information centres (the IPCS/INTOX project); and international toxicovigilance.

RECENT DEVELOPMENTS

A44

International Code of Principles for Management of Trade in Chemicals: UNCED proposed that industry should develop such an International Code of Principles, particularly with respect to the disposal of chemicals (Agenda 21, paragraph 19.50). UNEP has been requested by its governing council to provide an international forum for consultation with private sector parties on the preparation of a code of ethics on the international trade in chemicals. In 1992-93 UNEP convened meetings with industry and other private sector parties, international organizations and government experts. A final text for a code of ethics is expected to be developed in April 1994.

A45

OECD Chemicals Programme: The Programme has been expanded to cover risk prevention in close cooperation with the pollution prevention and control programme. A number of new approaches will be explored, such as the use of pollutant release and transfer registers. Another focus will be to develop practical approaches to substances that have similar structures, uses, hazardous properties or manufacturing processes.

A46

Reduction of pesticide risks: The FAO, UNEP and WHO are collaborating on a project to publish guidelines on the treatment and disposal of bulk and small quantities of pesticide waste aimed especially at developing countries. The FAO is also preparing a review of the implementation of its International Code for pesticides (see paragraph A37), as a basis for considering the need for further legal instruments in this area.

A47

The OECD intends to use the results of a recent survey of pesticide risk reduction activities in Member countries as a basis for setting priorities for future work. There is a proposal for a CEU Biocides Directive, covering non-agricultural pesticides, which will establish a list of approved active ingredients. This will complement the existing directive on plant protection products.

A48

Prevention of major chemical accidents: Recent initiatives include the 1992 UN/ECE Convention on the Transboundary Effects of Industrial Accidents, the OECD's comprehensive Guiding Principles for Accident Prevention, Preparedness and Response, which was published in 1993 and the ILO Convention and Recommendation on the Prevention of Major Industrial Accidents, which were adopted in 1993. The OECD is currently working on extending the scope of its Guiding Principles for Accident Prevention, Preparedness and Response, including the interface between fixed installations and various transport modes.

A49

APELL programme: Within the framework of its APELL programme, UNEP is currently working with the IMO to develop specific activities on the prevention of accidents in ports. UNEP, again within the framework of APELL, together with IPCS, WHO EURO and the OECD has just produced guidelines on the role of the health sector in chemical emergency preparedness and response; these will be used by IPCS and WHO Regional Offices in training activities. Case studies of successful APELL implementation will be published in 1994.

- A50** The CEU plans shortly to make a proposal to review fundamentally the Seveso Directive and increase its scope.
- A51** **Poison control programmes:** A WHO collaboration Centre on Health Aspects of Chemical Accidents is being established in the Netherlands. IPCS is expanding its INTOX project to enhance chemical incident response and reporting, and environmental health monitoring. IPCS has plans in hand to study the epidemiology of pesticide poisonings in various parts of the world, with a view to reducing them. Through a WHO EURO project in collaboration with IPCS, networking among centres for toxic alerts is being developed.
- A52** **Pollutant release and transfer registers:** With the assistance of national and international organizations such as the OECD and UNITAR, IPCS has undertaken the coordination of activities to facilitate the establishment of these registers (referred to as emission inventories in Agenda 21) as a risk reduction tool. As a separate but related activity, a UN/ECE emission inventory guidebook for air pollutants will be developed by 1995 in collaboration with the CEU.
- A53** **Cleaner production and life cycle approach:** In the UN/ECE Recommendations on Reduction, Replacement, Recovery, Recycling and Re-utilization of Industrial Products, Residues or Waste (1992) due consideration is given to the substitution of hazardous substances by less dangerous or non-hazardous ones with respect to possible health and environmental effects throughout all stages of the commercial life of a chemical.
- A54** UNIDO and UNEP intend to increase their involvement in providing information on cleaner production, with UNEP establishing regional centres for the application of cleaner technologies.

Strengthening of national capabilities and capacities for management of chemicals

EXISTING ACTIVITIES

- A55** Most developed countries have at least some systems in place for the environmentally sound management of chemicals. In many other countries such systems are very limited or non-existent. The following account therefore mainly addresses initiatives by international bodies to assist less developed countries strengthen their capacities and capabilities in terms of the basic elements for the environmentally sound management of chemicals identified in Agenda 21 (paragraph 19.56).
- A56** **Policy, legislation and enforcement:** Concern about insufficient control of chemicals in countries prompted UNEP, in 1987, to adopt the London Guidelines for the Exchange of Information on Chemicals in International Trade (see Programme Area C). UNEP has now produced a series of legislative guidance documents to assist countries implement the London Guidelines. In addition, UNEP and UNITAR, in close cooperation with the FAO, have established a training programme on the implementation of the PIC procedure.
- A57** The FAO has adopted an International Code of Conduct on the Distribution and Use of Pesticides, which now includes the PIC procedure (see Programme Area C). The FAO assists its member governments establish appropriate registration and control infrastructures in order to implement the Code.
- A58** The UN RTDG provide a sound basis for the development of national legislation on the transport of dangerous chemicals (see paragraphs A14, A15 and A38).
- A59** International policies and standards regarding the safety of chemicals at work are formulated by the ILO. Standards are defined in Conventions and Recommendations which provide a model and stimulus for national legislation and practice in member states. The ILO assists developing countries establish or strengthen national frameworks so that they can eventually ratify ILO instruments.

ANNEX 1

A60

Information gathering and dissemination: In particular the role of the ILO, IRPTC and IPCS in providing sources of information should be noted (see Programme Area C). In the area of chemical accidents the OECD has developed information material and systems.

A61

Capacity for risk assessment and data interpretation: One of the objectives of IPCS is to improve the capabilities of national authorities to conduct their own evaluations of the health and environmental hazards and risks from chemicals. Training courses have been conducted for senior decision makers and carefully chosen professionals. However, insufficient resources have prevented any large scale training programme.

A62

WHO Regional Offices and IRPTC also run training courses in hazard and risk assessment.

A63

The UN/ECE encourages implementation of OECD risk assessment practices by non-OECD members in the UN/ECE region.

A64

Capacity for rehabilitation of poisoned persons: IPCS provides comprehensive sets of tools for increasing the capacity of countries to deal effectively with poisonings, including guidelines on setting up and operating poison control centres and a handbook on recognizing poisoning and first aid measures (see Programme Area D).

A65

Training programmes: Many UN agencies and programmes, such as the ILO, IMO, UNEP, WHO, UNIDO, IPCS and UNDP organize chemical safety training for less developed countries. For example, UNIDO pays particular attention to training in the safe formulation and application of pesticides, and has published safety guidelines. IPCS and the ILO seek to train a country's trainers. The ILO provides specific safety training to labour inspectorates.

A66

Capacity to respond to emergencies: This topic is dealt with in Programme Area D. Activities include UNEP's APELL programme, which is designed to assist decision-makers and technical personnel improve community awareness of hazardous installations and prepare response plans, and the IPCS/INTOX project (see paragraph A43). The UN Centre for Urgent Environmental Assistance, which is an experimental programme of UNEP, is exploring ways to enhance existing international capacities for responding to emergencies with environmental consequences. The UN/ECE Convention on the Transboundary Effects of Industrial Accidents, under which policies and strategies are developed to reduce risks of industrial accidents in the region, includes:

- policy on the siting of new hazardous activities;
- networking for emergency preparedness and response to industrial accidents, in particular in countries in transition;
- setting up a coordination office for industrial safety management at regional level;
- the development of an accident notification system.

RECENT DEVELOPMENTS

A67

With respect to accident preparedness and response, UNEP is disseminating the OECD's Guiding Principles to non-OECD countries, through the APELL network. Another initiative to strengthen national capabilities and capacities in this area is the 1992 UN/ECE Convention on Transboundary Effects of Industrial Accidents, which fosters regional cooperation in research and development, the exchange of information and the exchange of safe technology, as well as training.

- A68** The UN/ECE assists ECE countries in economic transition in several ways, e.g. in the clean-up of chemical waste sites.
- A69** The OECD's Development Assistance Committee has recently adopted a number of Guidelines on Aid and Environment, which include guidance on the management of chemicals.
- A70** UNITAR, in cooperation with IPCS and its member organizations, has started work on an Inventory of Training Assistance Activities Organized by International Organizations in the Field of Chemical Safety. This should improve future coordination of such activities.
- A71** UNITAR, in cooperation with IPCS and its member organizations, has started to collect information that may be helpful in developing comprehensive national profiles of capabilities and capacities for the management of chemicals (see page 12).
- A72** In the context of its new Active Partnership Policy, the ILO has started to establish, in key regions, multidisciplinary teams of ILO experts to assist in evaluating national occupational health and safety needs, including chemical safety needs.
- A73** IPCS is preparing guidelines on the administrative and other structures needed to strengthen national chemical safety programmes.
- A74** UNEP has started to develop training and technical assistance programmes in cooperation with other international organizations for the application of its legislative guidance documents on the management of chemicals in developing countries.

Prevention of illegal international traffic in toxic and dangerous products

EXISTING ACTIVITIES

- A75** The London Guidelines including its PIC procedure, which is also incorporated in the FAO International Code of Conduct on the Distribution and Safe Use of Pesticides (see Programme Area C), are relevant to this Programme Area. Also relevant is the UN Consolidated List of Products Whose Consumption and/or Sale have been Banned, Withdrawn, Severely Restricted or Not Approved (see Programme Area C). Likewise, activities to strengthen national capabilities for management of chemicals (Programme Area E) are of equal importance for Programme Area F.
- A76** The UN Economic and Social Commission for Asia and the Pacific (UN/ESCAP) has been conducting a preliminary assessment of illegal traffic in toxic and dangerous products and wastes.

RECENT DEVELOPMENTS

- A77** UNEP has established a task force for the development of modalities for a legally binding instrument for the mandatory application of the PIC procedure (see paragraph A25).
- UN/ESCAP and the UN Economic and Social Commission for Western Asia (UN/ESCWA) have plans to address the development of appropriate legislation.

Proposed Activities of a Strengthened IPCS

A strengthened IPCS would catalyze and coordinate activities in relation to chemical safety, including capacity building (technology transfer/institutional development, human resource development and public education, including promotion of risk communication and risk reduction) and promotion of research, and in particular by:

- carrying out and disseminating evaluations of the risks to human health and the environment from exposure to chemicals, including those of natural origin, combinations of chemicals and chemical processes;
- producing health or environment based guideline values for acceptable exposure to the agents evaluated;
- promoting the development, improvement, validation, harmonization, and use of internationally acceptable methods for laboratory testing and exposure assessment, for clinical, toxicological, ecological, and epidemiological studies, and for other aspects suitable for the evaluation of health and environmental hazards, and risks from chemicals and chemical processes;
- promoting the development and global application of a harmonized system for classification of chemicals and a compatible labelling system;
- promoting and facilitating information exchange on chemicals, chemical accidents, chemical risks, cleaner technologies, and hazard communication systems and the full implementation of international guidelines, in particular the PIC procedure;
- promoting effective international cooperation with respect to the prevention of, preparedness for and response to emergencies and accidents involving chemicals, including strengthening programmes for the prevention of and response to poisoning by chemicals;
- promoting the development and use of safer alternative chemicals and technological approaches to risk reduction;
- promoting activities to reduce the risks of chemicals, taking into consideration their entire life cycle, including development of policies and initiatives to identify and minimize human and environmental exposures to toxic chemicals;
- promoting technical cooperation with member states, in particular developing countries, to facilitate the use of available evaluations and improve the capabilities of national authorities to conduct their own evaluations of health and environmental hazards and risks from chemicals;
- promoting the establishment and strengthening of national capabilities and capacities for safety aspects relating to the management of chemicals, throughout their entire life cycle, including legislation and provisions for implementation and enforcement, and advisory services;
- promoting the strengthening of national capabilities and capacities to detect and halt the illegal international traffic in toxic and dangerous products in contravention of national legislation and relevant international legal instruments.

Proposed Purpose, Aims and Functions of the Intergovernmental Forum on Chemical Safety

From the draft terms of reference which have been prepared for consideration by the International Conference on Chemical Safety.

1 Purpose and Aims

- 1.1** The Intergovernmental Forum on Chemical Safety (hereinafter called 'the Forum') is an arrangement whereby representatives of governments meet to consider and make recommendations to governments, international organizations and intergovernmental bodies involved in chemical safety on aspects of chemical risk assessment and environmentally sound management of chemicals.
- 1.2** The purpose of the Forum is to provide policy guidance, develop strategies in a coordinated and integrated manner, provide the required political support and foster understanding of the issues.
- 1.3** The Forum will seek consensus amongst decision makers representing governments on the development of strategies for the implementation of Agenda 21, Chapter 19, and the periodic evaluation of such strategies.
- 1.4** The Forum shall aim to provide:
- a** clear, and consistent advice for cost effective, integrated procedures for risk assessment and management of chemicals using environmentally sound and generally accepted principles;
 - b** improved delineation and mutual understanding of roles, initiatives and activities both within and among governments and international organizations having responsibilities for chemical safety.

2 Functions

The functions of the Forum shall be to:

- a** identify priorities for work on chemical safety, and develop and recommend concerted international strategies for hazard and risk assessment of chemicals and for environmentally sound management of chemicals, including risk reduction programmes and risk communication, particularly taking into account the special needs of developing countries;
- b** assist in securing the collaboration, through governments, of national, regional and international bodies, active in the field of chemical safety, and avoid any duplication of effort in this area;
- c** promote the strengthening of national capabilities and capacities for chemicals management, especially in relation to infrastructure building, training, education, promotion of research, and provision of information;
- d** promote international agreements on harmonized classification and labelling of chemicals;

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- e** assist in identifying gaps in scientific knowledge and promote information exchange and scientific and technical cooperation, including training and education;
- f** periodically review and evaluate the effectiveness of relevant ongoing activities to implement recommended international strategies concerning chemical safety, and make recommendations for further activities;
- g** advise governments in their work on chemical safety, promote the coordination of relevant activities within and among governmental, intergovernmental and non-governmental organizations and encourage the appropriate distribution of work among organizations and other bodies within and outside the United Nations system in as clear and consistent a way as possible;
- h** promote effective international cooperation for the prevention of, preparedness for, and response to chemical accidents including the strengthening of programmes for the prevention of and response to poisoning by chemicals;
- i** perform other functions related to the purposes and aims of the Forum, as agreed by the Government Participants.

UN Bodies/Programmes and Other International Organizations Who Were Invited to Contribute Material to This Report

UN Bodies/Programmes

Food and Agriculture Organization of the United Nations (FAO)
General Agreement on Tariffs and Trade (GATT)
International Agency for Research on Cancer (IARC)
International Atomic Energy Agency (IAEA)
International Labour Office (ILO)
International Maritime Organization (IMO)
International Programme on Chemical Safety (IPCS)
United Nations Commission on Human Settlements (UNCHS)
United Nations Development Programme (UNDP)
United Nations Economic Commission for Africa (UN/ECA)
United Nations Economic Commission for Europe (UN/ECE)
United Nations Economic Commission for Latin America and the Caribbean (UN/ECLAC)
United Nations Economic and Social Commission for Asia and the Pacific (UN/ESCAP)
United Nations Economic and Social Commission for Western Asia (UN/ESCWA)
United Nations Environment Programme (UNEP)
United Nations Educational, Scientific and Cultural Organization (UNESCO)
United Nations Industrial Development Organization (UNIDO)
United Nations Institute for Training and Research (UNITAR)
World Health Organization (WHO)

Other International Organizations

Commission of the European Union (CEU)
Organization for Economic Cooperation and Development (OECD)
World Bank



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