

**Thematic Workshop on Synergies for Capacity Building under  
International Agreements Addressing Chemicals and Waste Management  
30 March – 2 April 2004**

**“SYNERGIES AMONG CHEMICALS MULTILATERAL AGREEMENTS.  
The Argentinian experience”**

*Leila DEVIA*  
*Lorenzo GONZALEZ VIDELA*

The Secretariat of Environment and Sustainable Development (SADS) – Argentina’s national environmental agency – created its Chemicals Unit (ChU) within the National Direction of Environmental Management in order to fulfill the obligations derived from the subscription of the Stockholm, Rotterdam and Basel Conventions and to achieve their most coordinated and synergetic application.

That is the way in which this ChU coordinates the National Direction of Environmental Management’s activities as far as chemicals management is concerned within the scope of the latter’s competence.

The ChU deals then with the obligations derived from the Stockholm Convention on Persistent Organic Pollutants (POPs) – subscribed by Argentina on May 23 2001 -, as well as with those emerging from the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, approved by the argentinian Parliament through National Law N° 25.278.

The ChU also articulates the above mentioned comittments with those derived from the compliance of the Basel Convention on the Transboundary Movement of Hazardous Wastes.

Among the activities directly related to the Stockholm Convention under development the Project “Enabling activities for the Stockholm Convention on Persistent Organic Pollutants (POPs): National Implementation Plan for Argentina (NIP)” must be underlined. This Project aims at:

- ✓ Preparing the ground for implementation of the Convention in Argentina;
- ✓ Assisting Argentina in meeting its reporting and other obligations under the Convention; and
- ✓ Strengthening Argentina’s national capacity to manage POPs and chemicals generally.

Its final expected outcome will be:

- ✓ A National Implementation Plan (NIP) for the Stockholm Convention as required under Article 7 of the Convention, including the strategies required

under articles 5 and 6, identifying efficient national response mechanisms, processes and measures aiming at the release reduction of POPs.

Within this major Project's framework - and through the signature of a Memorandum of Understanding between the National Direction of Environmental Management and UNEP Chemicals – the ChU carried out another project, the "Toolkit in Southamerica" one, developed by UNEP Chemicals for all the countries in the region, to establish a dioxins and furans national inventory.

The development of this Toolkit Project implied: 1) the organization and implementation of a National Workshop – held in Buenos Aires during February 2003 – to train the technical staff of the argentinian provinces and states in the application of the Toolkit for the identification and quantification of dioxins and furans (PCDD / PCDF) releases; 2) the application of the Toolkit by the provinces and states in order to elaborate their own local inventories and then, upon the basis of the collected data, the further elaboration of a Draft National Inventory; and 3) the organization and development of a Regional Workshop – held in Buenos Aires during October 2003 – where preliminary results were discussed among the countries in the region prior to the elaboration of their final National Inventories.

On the other hand, and within the context of a pre-existent Framework Agreement, SADS subscribed a supplementary Memorandum of Understanding with the National Institute of Industrial Technology (INTI) through which the Basel Convention Regional Centre for Training and Technology Transfer for the South American Region (BSRC) was created in Argentina.

Once created, this Regional Centre - together with the ChU – began to design the policies and strategies to be carried out to build the necessary capacity for achieving a dynamic and synergic application of Multilateral Environmental Agreements (MEAs) related to Chemicals and Wastes.

As a result, one of the first activities jointly developed was the "Joint Regional Workshop on Best Available Techniques (BAT) / Best Environmental Practices (BEP) in the Context of the Stockholm and Basel Conventions and the Consultation on the Business Plan and Institutional Arrangements of the Basel Convention Regional Center of South America in Argentina", that took place in Buenos Aires, Argentina, from October 21 to October 26, 2002.

During that event several issues regarding synergies arose that can be summarized in the following table:

	<b>Stockholm</b>	<b>Rotterdam</b>	<b>Basel</b>	<b>Viena/Mon treal</b>
<b>Information exchange</b>	<b>Art. 9</b>	<b>Art. 14</b>	<b>Art. 10 parag. 2</b>	<b>Arts. 5 and 9 (CV)</b>
<b>Technical assistance</b>	<b>Art. 12</b>	<b>Art. 16</b>	<b>Art. 10 parag. 3</b>	<b>Art. 10 (PM)</b>
<b>Ammendments / approval</b>	<b>Arts. 21 and 22</b>	<b>Arts. 21 and 22</b>	<b>Arts. 17 and 18</b>	<b>Art. 9 (CV)</b>
<b>Reporting</b>	<b>Art. 15</b>	<b>Art. 12</b>	<b>Art. 13</b>	<b>Art. 7 (PM)</b>
<b>Settlement of disputes</b>	<b>Art. 18</b>	<b>Art. 20</b>	<b>Art. 20</b>	<b>Art. 11 (CV)</b>
<b>Inclusion of chemicals / wastes</b>	<b>Art. 8</b>	<b>Arts. 7 and 8</b>	<b>Arts. 3 parag. 2, 3 and 4</b>	<b>Art. 9 (CV)</b>

From then on the coordination and communication policies and strategies for the application of the Conventions - and the concurrent satisfaction of technical assistance needs both at the national and the regional levels - began to be designed and developed.

Taking into account past experiences, it was concluded that if the goal was to create or strengthen capacities to effectively and synergically implement Stockholm, Rotterdam and Basel Conventions, a Capacity Building Program should be developed aiming, simultaneously, at the following issues:

- the adequate adjustment of legislation, that is, the reconciliation of requirements emerging from “basic guidelines” national laws with those derived both from international and provincial ones, emphasizing the PCB topic – due to the high involvement and sensitivity of the population on the subject – and the creation of new registers and / or its harmonization with existing ones;
- the design of a Risk Management Policy, actually inexistent in the country;
- the reaserch of the real capacities to respond to emergencies;
- the development of effective education programs;
- the development of the necessary capacities to collect and disseminate information; and
- the reaserch of the existing capacities to remediate polluted sites.

## 1. Legislative adjustment

Argentina is a federal country conformed by 24 states, 23 provinces and the Federal District corresponding to the City of Buenos Aires.

According to Article 41 of the National Constitution reformed in 1994 the National Government, through the highest ranked national environmental agency, the **Secretariat of Environment and Sustainable Development (SAyDS)**, must issue laws containing “basic guidelines” or “minimum contents” on environmental protection while the other 24 states must complement these latter through complementary legislation that may be more restrictive.

After a long debate about the real meaning of “basic guidelines” or “minimum contents”, the argentinian Parliament issued by the end of 2002 a first group of “basic guidelines” laws, one of which regulates one of the substances subject to the MEAs dealt with in this paper.

That is how, and always within the scope of POPs, due to the high involvement and sensitivity of the population on the subject of the incidence of PCB on the environment – and, essentially, on human health -, Law 25.670 establishing “*the basic guidelines of environmental protection for PCB management ...*” was issued.

This law, whose enforcement authority is SAyDS, forbids the installation of equipment containing PCB, the entrance of PCB or equipment containing PCB in the country, and the production and trade of these substances throughout the argentinian territory.

It also creates a National Integrated Register of PCB Owners, exception made of equipment with a PCB content of less than 1 liter.

As some of the argentinian states have already created this type of registers, the National one requires capacity building to achieve an adequate harmonization and complementation.

On the other hand, Law 25.670 establishes the following deadlines:

- Before 2010: all equipment containing PCB must be decontaminated and the corresponding costs must go on the owner’s account.
- Before 2005: all owners must present an Elimination or Decontamination Program so that in 2010 no equipment containing PCB remains in the argentinian territory.

As it may be easily observed, these deadlines are different from those established in the international field by the Stockholm Convention and are quite difficult to be fulfilled due to the actual capacities for the treatment of PCB in the country and the

high costs that an adequate elimination implies, both at the local level as well as at the international one within the framework of the Basel Convention.

It must be also emphasized that some provincial legal instruments establish diverse deadlines to achieve this goal.

Nobody can deny that an environmentally sound elimination of PCB involves a detailed planning that includes steps to be followed and deadlines to be accomplished in order to progressively - and not immediately - eliminate them.

That is so because an environmentally sound elimination of PCB means to reckon with an altogether environmentally sound technology that warrants an elimination that avoids the generation of undesired subproducts – equally or more hazardous than the original PCB – as is the case, for instance, of dioxins and furans.

An environmentally rational answer to the issue of PCB elimination must then respond to a coordinated planning, duly articulated among the different jurisdictions (national and provincial) and sectors (public and private) involved, for whose development the strengthening of the existing capacities is needed.

Summing it all up, and taking into account that what has been said for PCB is valid for all other substances under the Rotterdam and Stockholm Conventions, it must be ascertained that there are two working lines to be followed when building or strengthening capacities as far as legislative harmonization is concerned:

- the establishment of environmentally sound solutions to the issue of the elimination of undesired substances – with steps to be followed and deadlines to be accomplished – upon the basis of a coordinated planning, duly articulated among the different jurisdictions and sectors involved; and
- the necessary procedures to be followed to create registers duly harmonized with and complementary of the existing ones.

## **2. Development of a Risk Management Policy**

Risk is defined as a function of the probability of occurrence of an adverse effect and the magnitude of the damage derived from this latter. In the case of chemicals, the adverse effect is the consequence of a given individual or populational exposition to a given dose or concentration of a hazardous agent. Consequently, the risk concept is bidimensional. It involves, on the one hand, the possibility of generation of a negative outcome and the uncertainty about the occurrence, duration and magnitude of that outcome, on the other.

There is a systematic procedure – Risk Assessment - to get to know the magnitude of this adverse effect, that enables to describe and quantify the risks associated to hazardous substances, processes, actions or events.

The methodologies used in Risk Assessment constitute a vital element to achieve objective criteria that enable the integration of a national policy as far as chemicals are concerned. These should include, at least:

- Risk Analysis
- Risk Management
- Risk Communication

**I. Risk Analysis:** there is a standard model consisting in four phases: Danger identification; Dose-response evaluation for different forms of toxicity of a given substance; Exposure evaluation and Risk characterization.

**II. Risk Management:** Once the risk is characterized a Prevention / Mitigation Program must be implemented containing measures such as: classification and labelling, and the establishment of allowable maximum standards and management rules. This kind of measures imply that a differentiation is made between carcinogenic and non carcinogenic substances since the former requires a different approach. In this last case, it is assumed that any dose produces an effect and the standards are set upon the basis of the dose that produces an increase of one case of cancer in a million of exposed individuals, or one case in a hundred thousand.

### **III. Risk Communication**

Risk communication may be defined as an information (data, opinions, feelings) interaction and exchange process - among individuals, groups or institutions - on hazards for health, security or the environment, in order to make the community / population aware of the risks to which it is exposed and to get it involved in the correspondent mitigation process. Ideally, Risk Communication constitutes an intentional and permanent process.

Risk Communication must aim at increasing the population's understanding and knowledge levels, as well as its confidence and belief when faced to unknown phenomena that may rise fears and undesired responsive actions. Risk Communication must also contribute to the solution of conflicts derived from the eventual occurrence of an adverse event.

To achieve this goal in a way that it is accepted as a reliable and respectable one the message must be adequately adjusted to the characteristics of the population to be reached and disseminated by a given type of communicator through the most appropriate media.

Nevertheless, whatever the risk assessment methodology adopted, it must be always clear that the main goal is that of Risk Reduction since "zero risk" is inexistent and risk can be depleted to acceptable levels through the application of appropriate technologies.

Most part of activities use “best available techniques and practices” in order to reduce risk to the lowest possible values.

It must also be emphasized that Risks can be reduced in terms of Probability as well as in terms of Magnitude.

To reduce the former, preventive measures - aiming at improving installations, mechanisms and processes as well as at a better use of human resources - are usually taken. To reduce the Magnitude of the effects either preventive or corrective – as is the case of adopting emergency plans to attain an effective and efficient response in due time - actions can be applied.

As Argentina does not reckon up to now with a Risk Magement Policy, this is a topic where capacity building becomes relevant as far as Chemicals – within the scope of the MEAs under consideration - Management is concerned.

This Risk Management Policy must be straight and directly linked to the development of capacities – to be built or strengthened – in the field of emergency responses.

A first step in this sense may be a preliminary research to detect real capacities for emergency response.

### **3. Development of a Program to detect real capacities for emergency response**

One of the most important factors in Chemicals Management is to reckon with effective contingency plans or programs to efficiently respond to emergencies.

When elaborating these Contingency Plans or Programs a risk matrix as that mentioned in 2 must be taken into consideration.

To research the real capacities for emergency response several aspects within the existing Contingency Plans or Programs to face emergency situations must be deepened as is the case of:

- Risk Determination
- Response Planning
- Response Operations
- Communications and Reports
- Logistic Aspects
- Financial Aspects
- Training and Education
- Relationships with the Population / Community

As far as **responses** are specifically concerned, the emphasis must be put on:

- Response Levels: a minimum of 3 (local, national, regional) is foreseen;
- Response Structure: the creation of Response Groups (staff; functions; command positions) is also foreseen;
- Response Planning according to Response Levels;
- Response Operations according to phases (alert; evaluation; execution);
- Development of communications and reports.

As regards **logistic aspects**, it must be verified that the logistic chain of equipment and materials replenishment has been established “a priori” and that there is an adequate planning of the staff transportation system as well as a shifts sequence for the staff in operative tasks.

In the case of **financial aspects**, those issues related to special fund raising to meet extraordinary expenses derived from the start of the Contingency Plan or Program must be considered.

As far as **education and training** is concerned, the existence of training programs – with periodical both field and desk simulations as complement - for the staff in charge of the Contingency Plan or Program must be verified.

With regard to **relationships with the population / community**, it must be verified that criteria to veritably and adequately inform the population / community in case of emergency through the media – specifying the authorized spokesmen , information channels, documents to be delivered, etc. – have been established.

#### **4. Development of an Identification and Management of Contaminated Sites Program**

This Program could be designed through:

- Identification actions: elaboration of inventories through diverse type of actions as, for example, that of encouraging firms to state the existence of contaminated sites in exchange for agreements to gradually remediate those sites.
- Assessment actions: development of auditing programs.
- Remedial actions: development of remediation programs including different ways for their adequate financing and management.

Clear and solid baselines must be established since they constitute the only source of legal certainty for those involved in the performance of all sanitation / remediation and recycling tasks. Primary aspects to be covered by these baselines are: (1) a clear definition of concepts in the field of contaminated soils, (2) determination of the procedure to scientifically and technically evaluate the site and its pollution, (3) determination of the feasibility and economical profitability of the



surface sanitation and recycling projects, and (4) determination of administrative rules and procedures attaining all aspects involved.

These baselines enable to clearly face the complex task of putting into motion and managing those policies leading to the remediation of contaminated sites.

## **5. Development of effective environmental education programs**

It must be first stated that environmental education constitutes a formative process – aiming at all social levels – on environmental problems and the development of measures and actions leading to their solution. It therefore includes formal education, though it exceeds it. Nowadays the interest is focussed on creating conscience on environmental problems, population and its quality of life, as well as in trying to increase social responsibility in the search for sustainability.

According to the results of diverse international programs developed by different agencies of the UN, particularly UNEP and UNESCO, the objectives of environmental education at a national level were established in order to achieve:

- a) a clear, holistic, perception of the environment and its tight interdependence both with its natural and anhrropic components.
- b) a simultaneous recognition of the vital values they involve according to their function in the complex web that sustains life.
- c) an acknowledgement of those environmental problems derived from natural causes or human activities.
- d) an appraisal of the need for an environmental ethics that is necessarily reconciled with the objectives of all activities affecting natural resources and human settlements.
- e) a scientific knowledge of those natural processes that keep the balance of ecosystems.
- f) the acquisition of adequate capabilities to suggest and apply gradual solutions for existing environmental problems and preventive measures for those that may affect future generations.

Environmental education must start then from those specific problems perceived by the community and further broaden its perspectives – besides deepening the existing levels of knowledge – to find - along the educative process and through its own activities and experiences - the interconnections among the phenomena produced. These will enable to establish the most reasonable alternative solutions compatible with current policies, within the framework of other regional, binational or national ones.

Taking into account all that has been said and that Chemicals - within the MEAs under consideration - Management may result in environmental modifications of local or regional reach, existing environmental education programs must be strengthened – or new ones developed – including those modifications as a trigger factor to apply the most relevant concepts related to the assessment and mitigation of the undesired effects derived from those chemicals.

The main objectives of these programs may be summarized as follows:

- Create awareness regarding the treatment of certain local or regional problems with a given degree of complexity through an approach that emphasizes the different interventions between the region's natural and anthropic components.
- Communicate, report and create awareness on community and individual responsibility in the progressive improvement, preservation and control of the regional and local environment as a common heritage.
- Increase a responsible commitment of both regional and local inhabitants in the field of the rational use of natural resources.
- Increase the articulation between environmental management and educational management as far as regional and local environmental issues are concerned.

Upon this basis and considering environmental education as a permanent process that starts from regional and/or regional experiences and, through a global and transdisciplinary approach, aims at creating awareness in the community about their environmental issues, the following actions must be proposed:

- Actions in the field of formal education: include - within educational Programs - strategies that, taking chemicals management as a focal point, aim at developing apprenticeship experiences for pupils of all educational levels.
- Actions in the field of non formal education: promote the transformation of information into knowledge that may be applied in environmental management activities.
- Actions in both fields: project and apply – with the participation and agreement of all sectors – strategies to train teachers on chemicals environmental management.

## **6. Development of capacities to collect and disseminate information**

If it not were environmentally sound, chemicals environmental management would directly or indirectly affect the population's life interfering - in a certain way - with its daily tasks and creating differentiated expectations and demands as far as those substances production, use, handling and/or trade are concerned.

The population's lack of basic information regarding chemicals creates favourable conditions for the dissemination of wrong, deformed or inaccurate information that may give place to a generalized climate of insecurity or uncertainty both at the local and the regional levels.

On the other hand, the lack of an appropriate communication to the population in due time may also generate false expectations or inadequate adjustments.

The objective is to fulfill the population's demand as far as the reception of adequate information on chemicals environmental management, their eventual impacts and the measures taken to prevent, mitigate, control and/or compensate them, are concerned. This allows communities to count on, as a counterpart, with valid speakers within competent institutions to channel their demands and aspirations.

Then, the capacities to be built are directly related to:

- the transmission of information to the population on chemicals environmental management characteristics, the main transformations that may derive from their inappropriate handling and the measures to prevent or mitigate them;
- the establishment of systematic communication conditions among competent agencies, the communities involved, local public institutions and civil organizations;
- the reception of information - its expectations, concerns and eventual dissatisfactions - from the community;
- the follow-up of changes that may take place in the area's sanitary conditions as a result of potential environmental alterations that may derive from an inadequate chemicals environmental management; and
- the promotion of communication and medical orientation preventive actions and measures.

In that sense two different types of actions should be developed:

- The satisfaction of directly involved institutions and communities information needs through adequate social communication strategies that take into account the following factors:

- ✓ Analysis of priority issues
  - ✓ Specification of communication roles
  - ✓ Determination of the target-population
  - ✓ Identification of the message to be disseminated
  - ✓ Determination of communication media
  - ✓ Budget
  - ✓ Organization
  - ✓ Planning
  - ✓ Evaluation
- The satisfaction of the sanitary conditions evolution through a periodical and sustained follow up of health information generated in the region and through the implementation of mechanisms that ensure a continuous, permanent and interactive communication channel among public and private institutions and the community involved. This would include the following factors:
    - ✓ Monitoring of Environmental and Sanitary Surveillance;
    - ✓ Sanitary assistance to the population; and
    - ✓ Sanitary control at borders.

## **7. Conclusions**

As it may be observed from what has been stated, taking as a starting point the obligations emerging from Chemicals MEAs in the field of capacity building, the ChU and the BSRC could outline through a joint and synergic effort the corresponding coordination and communication policies and strategies.

This scheme of policies and strategies, each of which aims at specific issues responding the joint needs of the Chemicals MEAs, will be developed in the immediate future according to the guidelines described in this paper and depending on financial and human resources availability.

As a first step in the sense of a capacity building that takes into account the synergies among the diverse issues contained in Chemicals MEAs, the Workshop that will take place in Buenos Aires, Argentina, during March 22 and 23 may be quoted. During this Regional Workshop on Prevention and Monitoring of Hazardous Wastes Illegal Traffic there will be presentations that will address the problems derived from the illegal traffic of POPs wastes and obsolete pesticides too. That is how the problems arising from illegal traffic within the framework of the Stockholm, Rotterdam and Basel Conventions will be dealt with in a simultaneous and synergetic manner.