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## **International POPs Elimination Project**

*Fostering Active and Efficient Civil Society Participation in  
Preparation for Implementation of the Stockholm Convention*

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# **Country situation report on POPs in Mexico**

**Red de Acción sobre Plaguicidas y sus Alternativas en  
México (RAPAM)**

**México  
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## About the International POPs Elimination Project

On May 1, 2004, the International POPs Elimination Network (IPEN <http://www.ipen.org>) began a global NGO project called the International POPs Elimination Project (IPEP) in partnership with the United Nations Industrial Development Organization (UNIDO) and the United Nations Environment Program (UNEP). The Global Environment Facility (GEF) provided core funding for the project.

IPEP has three principal objectives:

- Encourage and enable NGOs in 40 developing and transitional countries to engage in activities that provide concrete and immediate contributions to country efforts in preparing for the implementation of the Stockholm Convention;
- Enhance the skills and knowledge of NGOs to help build their capacity as effective stakeholders in the Convention implementation process;
- Help establish regional and national NGO coordination and capacity in all regions of the world in support of longer term efforts to achieve chemical safety.

IPEP will support preparation of reports on country situation, hotspots, policy briefs, and regional activities. Three principal types of activities will be supported by IPEP: participation in the National Implementation Plan, training and awareness workshops, and public information and awareness campaigns.

For more information, please see <http://www.ipen.org>

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# Country situation report on POPs in Mexico

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## Introduction

Mexico is a party to the Stockholm Convention on Persistent Organic Pollutants (POPs). The Mexican government signed this international agreement on May 23, 2001, and ratified it and sent it to the United Nations Secretary General on February 10, 2003. Later, the Convention was ratified by the Senate, and published in the official publication *Diario Oficial de la Federación* on May 17, 2004, and therefore since that time it has been part of the national environmental legislative framework. On that same day, May 17, 2004, the Convention entered into force at the international level, having been ratified by 50 countries.

The objective of this report is to offer a general panorama of the situation related to POPs in Mexico, incorporating the concerns and recommendations of various citizen groups for the development of the Stockholm Convention National Implementation Plan (NIP). Mexico selected the World Bank as the agency to receive GEF funds for developing the NIP. However as of this date, April 18, 2006, a National Coordinating Committee has not been formally constituted to develop the Stockholm Convention NIP with clear mechanisms of citizen participation, although it is likely to be officially established in May 2006.

## POPs Pesticides

Of the eight pesticides included in the initial dozen of POPs in the Stockholm Convention, most of them have been prohibited, or are not legally used in the country. The legal status of these POPs is as follows:

### Prohibited:<sup>1</sup>

- Aldrin
- BHC
- Dieldrin
- Endrin
- Mirex

### Not Registered:

- Toxaphene<sup>2</sup>
- Heptachlor

### Restricted

- DDT, for the exclusive use of the Ministry of Health in the control of vector-transmitted illnesses, especially malaria.

These pesticides were used extensively in Mexican territory for decades, as part of the technological packages promoted by the “green revolution” after the Second World War.

In the case of DDT, even though it is restricted, not legally prohibited, the Ministry of Health has discontinued its use in the fight against malaria since 2002. This is the result of the application of measures for the comprehensive control of the mosquito vector and of the mechanisms for transmitting malaria. These measures are part of the North American Regional Action Plan for DDT Management, adopted in 1996 by the North American Commission for Environmental Cooperation (CEC) [www.cec.org](http://www.cec.org), in which the environmental ministers of Mexico, the United States and Canada participate. The DDT regional action plan is in accordance with Council [CEC] Resolution #95-5, "Sound Management of Chemicals."

The elimination of DDT use in malaria control is primarily the result of the initiative taken by the Ministry of Health, and in reality reflects not so much “DDT environmental sound management,” but a plan for its gradual reduction, leading to its definitive elimination, with the search for not merely a chemical pesticide to replace DDT, but a set of measures that are open to community participation.

The current strategy summarizes and enhances investigation as well as epidemiological surveillance through *focalized treatment* amongst the involved communities and the widening of the population’s participation in prevention activities. The integral strategy, includes the following four activities: a) identification of the areas of epidemiological stratification of risk, in order to classify communities; b) identification of new and recurring cases according to the different areas, by means of a three-month intensive treatment (with a single monthly dose of chlorine and primachine) to reduce the parasite load in the community; c) application of pyrethroids as complementary means, according to the following method: indoor spraying with deltamethrin (instead of DDT) and in outdoors the spraying of permethrin (instead of malathion) with piperonil butoxide as a synergist with back pack motor equipment in nebulization at low dosage. Lastly, the strategy includes the assessment of disease control through positive impact indicators. By these means the health authorities intend to develop a flexible, dynamic and cost-effective method of prevention, which may cause low environmental impact and greater participation by the communities. In many cases the use of pyrethroids are not necessary.<sup>3</sup>

## **Stockpiles of Obsolete POPs Pesticides or Highly Contaminated Sites**

We do not have an updated inventory of the accumulated stockpiles of obsolete POP pesticides in the country. What has been identified although not completely evaluated are some sites that are highly contaminated with POP pesticides.

Especially worth highlighting is the case of Salamanca, Guanajuato, where the POPs pesticides included in the Stockholm Convention were produced for decades in the installations belonging to the state enterprise *Fertilizantes de México* (Fertimex), which was privatized and renamed Velsipol, and is currently known as Tekchem, SA de CV. The Environment and Ecology Commission of the State of Guanajuato revealed that 70,000 thousand tons of wastes with organochlorine, organophosphates pesticides, as well as mercury and heavy metals, were being stored in the open air. The Commission demanded that the federal executive branch conduct an environmental clean-up of the site, through Semarnat (Ministry of Environment and Natural Resources) and the *Comité de Administración del Mandato Fiduciario*, for the environmental remediation of the former Fertimex Industrial Unit in Salamanca.<sup>4</sup> It is necessary to investigate whether the required clean-up activities have been carried out adequately, to assure that aquifers are not contaminated, and to investigate whether damage was incurred to neighboring communities, since the company is located in a densely populated area. Local organizations have demanded the closing of Tekchem due to the contamination it has provoked.

When an updated inventory of obsolete pesticides is conducted in Mexico, it is necessary to contemplate not only the old few production facilities but the inspection of widely distributed small and medium pesticide mixing companies (formuladoras) that import active ingredients and mix with other “inert” ingredients for a complete formula, working also for bigger transnational companies. Inspection on site should be included along with interviewing of neighbors and former workers. There are, for example, cases in Juchitepec, Mexico State where these types of formuladoras has created environmental pollution and affected the surrounding communities.<sup>5</sup>

## **PCBs (polychlorinated biphenyls)**

In Mexico PCBs are distributed throughout the national territory, especially in electricity-generating installations (including hydroelectric installations), substations, industrial complexes, water wells (pumps), and the warehouses of semi-official enterprises such as the Federal Electricity Commission (*Comisión Federal de Electricidad*—CFE). PCBs are not produced nor were produced in Mexico, but were instead imported. The majority of PCBs found in Mexico were imported from the US corporation, Monsanto. Of this company’s industrial plants where PCBs were manufactured, one in Alabama was closed in 1970, and the other in Illinois was closed in 1977. Lesser amounts of PCBs were also imported from Europe and Japan during the 1990s.

## PCB Regulation

In Mexico, PCBs are regulated under the Hazardous Wastes Regulation of the General Law of Ecological Equilibrium and Environmental Protection. PCBs are considered a hazardous waste under Mexican Law, and therefore all obligations of hazardous waste generators apply to PCBs.

PCB handling and disposal is regulated by a special Federal Standard Norm (NOM-133-SEMARNAT, Protección Ambiental –Bifenilos policlorados (BPC's) –Especificaciones para su manejo.<sup>6</sup>); disposal is regulated by Articles 38 and 39 of the General Law of Ecological Equilibrium and Protection of the Environment on Hazardous Waste. According to NOM-133-SEMARNAT PCB concentrations at 50 ppm or material contaminated with it at this level is considered hazardous waste.

According to NOM-133-SEMARNAT any entity that has PCBs and will eventually have to dispose of them must submit a report (manifest) to INE. By mid-1995, most industries had not submitted the manifest. Officially INE has been working with the companies to obtain the manifests and ensure their accuracy. Transformer repairs do require authorization for PCB management. Labeling is controlled according to official Mexico norms, international labeling norms, and the General Law of Ecological Equilibrium and Protection of the Environment. Limited information is available regarding whether PCBs are being stored appropriately and in controlled ways.<sup>7</sup>

NOM-133-SEMARNAT establishes deadlines for the elimination of equipment and wastes with PCBs. February 2003 was the deadline for PCB equipment, electrical equipment and wastes stored before the publication of the Standard (December 2001) at all sites. December 31, 2008 is the deadline for PCB equipment, PCB electrical equipment and PCB-contaminated equipment at sensitive sites and at urban, rural and industrial installations and substations. Nine months later, PCB wastes generated and equipment must be retired from service at all sites.<sup>8</sup>

## PCB inventory

INE conducted a National Inventory of PCBs in Mexico in the framework of CEC Regional Action Plan but it has to be updated because the data is from 1995. As this inventory is yet to be completed, there is some uncertainty regarding the overall level of PCBs in Mexico. According to one official report from INE, Mexico has 7,980 metric tonnes (8,800 US tons) of liquid PCBs stored and in transformers, but there currently is no information available on the amount of PCB-contaminated material. The Federal Electricity Commission (CFE) has approximately 2,040 metric tonnes (2,250 US tons) of PCBs in electrical equipment; Luz y Fuerza del Centro, 2,722 metric tonnes (3,002 US tons); PEMEX, 642 metric tonnes (708 US tons); and Metro, 198 metric tonnes (218 US tons) in use across the country.<sup>9</sup>

## **Infrastructure for treatment:**

There are four companies authorized for treatment of PCBs.<sup>10</sup> One of them uses Base Catalyzed Dechlorination (BCD) technology that was originally developed by USEPA with funds from the US Navy, and is used in Mexico for treating liquid PCBs drained from electric transformers, condensers and switches, and contaminated solids (paper, fabric) at the Atlacomulco plant in the state of Mexico. This technology has the capacity for on-site treatment of oils from transformers with concentrations above 2,233 ppm, with a mobile unit.<sup>11</sup>

### Exporting of PCBs

Mexico exported a total of 2,500 tons of PCBs during the period from 1995 to 1999.<sup>12</sup> The countries of destination were primarily Finland, and to a lesser degree, Holland, France and England, where they have been incinerated.

### Protests by communities

Diverse communities and environmental organizations have opposed the incineration of PCBs in Mexico. The most important antecedent is the opposition expressed by the Association of Housewives in Tijuana Beaches in Baja California Norte against the attempts at incineration by Chemical Waste Management, until the project was cancelled in April 1992.<sup>13</sup> Other more recent protests include the opposition during 2005 by communities and town council members in the El Higo municipality in Veracruz against the project for the Altecinc incinerating company to incinerate 169 drums of PCBs stored in the municipality, culminating in the cancellation of the project.<sup>14</sup>

In addition, various communities have presented denouncements in relation to the inadequate storage of PCBs by the CFE electricity company in Ciudad Juárez, Chihuahua and in Perote, Veracruz. In other cases, inspections have revealed irregularities in Tamaulipas, the state of Mexico, and in plants near Valle de Bravo. Another problem detected in the CEC report is that private shops for repairing electric transformers do not have adequate treatment and storage systems.<sup>15</sup>

## **Dioxins, furans and other unintentional POPs**

### Dioxins inventory

In Mexico the main antecedent for making an estimated assessment of dioxins, with the identification and quantification of dioxin sources, was the work prepared for the CEC in the year 2000. A report entitled “*Long range air transport of dioxin from North American sources to ecologically vulnerable receptors in Nunavut, Arctic Canada*” was prepared by the Center for the Biology of Natural Systems (CBNS) at Queens College Nevertheless; some Mexican experts consider that this report generated information that is “indicative and valuable, however not very quantitative or reliable.”<sup>16</sup>

For their part, environmental authorities have conducted various preliminary exercises in which sources have been identified and total emissions of dioxins were estimated for the period from 2001 to 2005, however to date we do not have a complete, updated inventory of unintentionally produced dioxins, furans, PCBs and HCBs, as specified in the Stockholm Convention. Therefore this is a task to be carried out within the National Implementation Plan for the Stockholm Convention.

Pat Costner, Senior IPEN Science Advisor, in an IPEP report has made an extensive review of the scientific literature available until December 2005 of the dioxin emission factors from non controlled combustion sources and compared them with those proposed in the UNEP Toolkit, with the conclusion that the Toolkit made an overestimation in each source<sup>17</sup>. The report proposed new emission factors and in the annex compared the cases of Mexico, Cuba and Argentina.

In the case of Mexico, the preliminary dioxin inventories made in which dioxin releases were estimated for the year 2000 are:

- a) In the first inventory, which was prepared by García et al. (2001), 80 dioxin releases for each source category were calculated using emission factors that were the same as those used by the U.S. Environmental Protection Agency for the 1998 U.S. dioxin inventory;<sup>18</sup>
- b) Gutiérrez et al. (2002) prepared a revised version of the first inventory in 2002, again based on the same emission factors as those used by the U.S.;<sup>19</sup>
- c) Alvarado and Gutiérrez (2003) prepared a third report in which dioxin releases were estimated using the Toolkit emission factors and compared with release estimates that were said to be taken from Gutiérrez et al. (2002);<sup>20</sup> and
- d) At an international conference in 2005, Alvarado et al. (2005) presented a paper said to describe the comparison of release estimates based on Toolkit emission factors and those based on U.S. emission factors as reported by Alvarado and Gutiérrez (2003).<sup>21</sup>

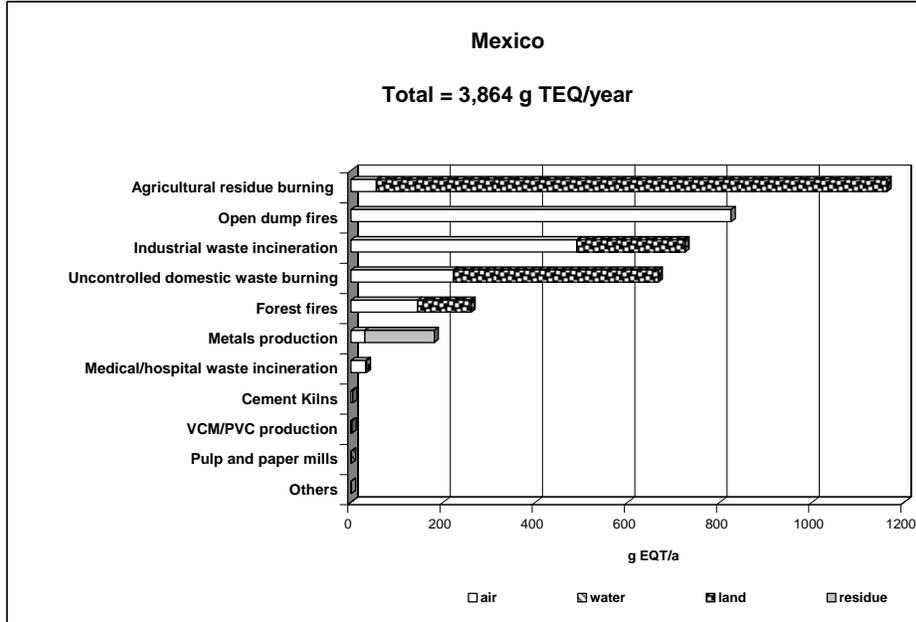
Besides the inconsistencies in the Mexico inventories exercises, the IPEP report shows how the total amount of dioxin produced is different and the list of sources identified as major sources changes depending of the emission factors that are used. Using the Toolkit proposal the three main sources in Mexico apparently are agricultural residue burning, open dump fires and industrial waste incineration. In contrast, using the proposed factors with more solid scientific bases, the three main dioxin sources are industrial waste incineration, open dump fires, and metals production. In addition, if we applied appropriate emission factors proposed by IPEN the total amount of dioxin produced in Mexico is reduced from 3864 grams TEQ/year to 1295 grams TEQ/year. Table 1 compares the top ten dioxin sources and estimated releases using these two different types of emission factors.

**Table 1: México -- Top ten dioxin sources and estimated releases, based on Toolkit emission factors only and on most appropriate emission factors for selected sources - forest fires, grassland and moor fires, open burning of agricultural residues, open burning of domestic waste, and open dump fires**

Toolkit Emission Factors			Appropriate emission factors for selected sources		
Rank		grams TEQ/year	Rank		grams TEQ/year
1	Agricultural residue burning	1162.88	1	Industrial waste incineration	724.98
2	Open dump fires	824.82	2	Open dump fires	222.5
3	Industrial waste incineration	724.98	3	Metals production	180.97
4	Uncontrolled domestic waste burning	666.9	4	Agricultural residue burning	94.1
5	Forest fires	260.58	5	Medical/hospital waste incineration	33.61
6	Metals production	180.97	6	Forest fires	15.95
7	Medical/hospital waste incineration	33.61	7	Uncontrolled domestic waste burning	12.8
8	Cement Kilns	4.18	8	Cement Kilns	4.18
9	VCM/PVC production	2.67	9	VCM/PVC production	2.67
10	Pulp and paper mills	1.34	10	Pulp and paper mills	1.34
	Others	1.148		Others	1.148
	<b>Total</b>	<b>3864</b>		<b>Total</b>	<b>1294</b>

Source: Pat Costner, *Estimating Releases and Prioritizing Sources in the Context of the Stockholm Convention Dioxin Emission Factors for Forest Fires, Grassland and Moor Fires, Open Burning of Agricultural Residues, Open Burning of Domestic Waste, Landfill and Dump Fires*. IPEN, Owltree Environmental Consulting, RAPAM, México, December 2005.

**Ten largest dioxin source categories, based on emission factors from UNEP Dioxin Toolkit**

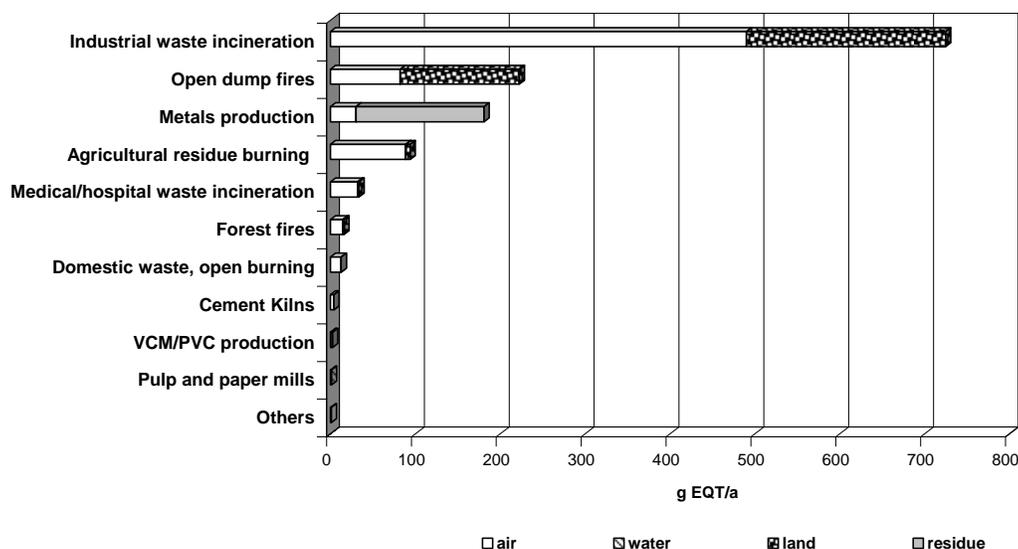


Source: Pat Costner, *Estimating Releases and Prioritizing Sources in the Context of the Stockholm Convention Dioxin Emission Factors for Forest Fires, Grassland and Moor Fires, Open Burning of Agricultural Residues, Open Burning of Domestic Waste, Landfill and Dump Fires*. IPEN, Owltree Environmental Consulting, RAPAM, México, December 2005.

**Mexico . Ten largest dioxin source categories, based on revised emission factors for selected sources (forest fires, grassland and moor fires, open burning of agricultural residues, uncontrolled burning of domestic waste), as shown in Table A.1**

## Mexico

Total = 1,294 g TEQ/year



Source: Pat Costner, *Estimating Releases and Prioritizing Sources in the Context of the Stockholm Convention Dioxin Emission Factors for Forest Fires, Grassland and Moor Fires, Open Burning of Agricultural Residues, Open Burning of Domestic Waste, Landfill and Dump Fires*. IPEN, Owltree Environmental Consulting, RAPAM, México, December 2005.

## POPs and the Pollutant Release and Transfer Registry (PRTR)

The Pollutant Release and Transfer Registry (PRTR) is an instrument that took several years to be developed. It has enjoyed the support of the Commission for Environmental Cooperation, however it has also confronted resistance on the part of some industrial groups. The first national PRTR results, with data from 2005, are to be published during the second half of 2006.

The PRTR includes the 12 POPs listed in the Stockholm Convention: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB), mirex, toxaphene, PCBs, dioxins and furans, although in the case of the pesticides, their use and commercialization are not authorized, and in fact, they are not produced in the country.<sup>22</sup> The PRTR includes a total of 104 substances and requires reporting from companies under federal jurisdiction in 11 sectors: oil and petrochemical, chemical, paints and dyes, metallurgical, automotive, cellulose and paper, cement and lime, asbestos, glass, electricity generation, and treatment of hazardous wastes. Reporting is also required from establishments that generate hazardous wastes and those discharging wastes into wastewater and receiving water bodies that are classified as national waters.

The PRTR is based on Article 109a of the General Law of Ecological Equilibrium and Environmental Protection (LGEEPA) and follows regulations published in June 2004.<sup>23</sup> It is hoped that in 2006 discussion will begin on the Official Mexican Standard (NOM) that will determine “*the scope of the reporting and technical criteria and procedures for the inclusion and exclusion of contaminating substances in air, water, soil, subsoil, and hazardous materials and wastes, as well as persistent organic compounds, greenhouse effect gases, and substances that are destroying the ozone layer*” (Article 18, Regulations for LGEEPA in the area of the Pollutant Release and Transfer Registry).

In the case of dioxins and furans, it is necessary to report any amount, according to regulations associated with the PRTR. Nevertheless, instructions for calculating these POPs are not included in the Guidelines developed by environmental authorities for the selection and use of methods for estimating releases in the PRTR, in *Cédula de Operación Anual* (published on January 28, 2005).<sup>24</sup>

It is important that the future NOM standard be consistent with the commitments in the Stockholm Convention. We would recommend promoting the direct measurement of unintentionally produced POPs: dioxins, furans, PCBs and HCBs, and in sectors where this is not possible, that emission factors be established for calculating releases into the environment, with the greatest scientific rigor possible. This will make it necessary to review and update the factors proposed in the UNEP Toolkit for incorporating into the corresponding guidelines for the PRTR in Mexico. An accurate and open process for public consultation on the PRTR has to be the instrument to measure the progress of continuous minimization policies, especially for unintentional POPs as is required by Article 5 of the Stockholm Convention.

## **The Incineration problem**

In Mexico various permits have been granted to companies that incinerate hazardous, municipal solid and biological infectious wastes. A list of authorized companies is included in this report. According to NOM-098-SEMARNAT,<sup>25</sup> the limits defined for the release of dioxins and furans in the case of incineration (including pyrolysis, gasification and plasma) is 0.5 ng/m<sup>3</sup> EQT for new installations and 0.2 ng/m<sup>3</sup> EQT for new equipment, both with annual measurements required. However, Mexico does not have internationally certified laboratories for measuring dioxins in the environment, and samples are sent abroad, making efficient monitoring difficult.

In January of 2006, there were 22 companies authorized by Semarnat to incinerate hazardous and infectious biological wastes, not including cement-making plants.<sup>26</sup>

One of the most worrisome sectors is the cement industry, which managed to establish provisional permits and then federal agreements for the burning of hazardous and non-hazardous wastes as an alternative to conventional fuel.<sup>27</sup> According to NOM-040-SEMARNAT,<sup>28</sup> which establishes the maximum levels for atmospheric releases in the manufacturing of hydraulic cement, the maximum limit permissible is 0.2 ng EQT/m<sup>3</sup> with biannual or annual testing required, depending on the percentage of substitution of

convention fuel, at 5 to 15% and 15 to 30%, respectively. In November 2005 Semarnat granted 23 authorizations for the preparation of alternative fuel in Mexico.<sup>29</sup>

In Mexico the cement industry is dominated by only a few companies, and two of them worth mentioning in particular are Cementos Mexicanos (CEMEX), the third largest cement transnational company in the world, and Cementos Apasco, of Swiss-owned Holcim. In a letter presented to President Vicente Fox, 94 Mexican environmental and citizen organizations, with international support from groups from 24 countries, expressed their opposition to the program of burning used tires in cement kilns, due to the serious environmental impact and the harmful impact on public health this measure would have, and demanded that alternatives already existing in the country be promoted, including crushing used tires for re-use in construction materials.<sup>30</sup> Millions of tires from open-air trash dumps have been sent to cement kilns along the border between Mexico and the United States. The incineration of used tires is a problem that should be included in the list of sources of dioxins and furans, not only the use of hazardous wastes.



Recently, the Centro Nacional de Metrología (CENAM) acquired high resolution equipment to measure dioxins and is in the process to start doing the first measurements in soil.<sup>34</sup>

On the part of citizen groups, we highlight the studies for measuring POPs in butter that were conducted by Greenpeace during 1998 and 1999, and the study for measuring POPs in free-range chicken eggs in Coatzacoalcos, Veracruz that was conducted by the International POPs Elimination Network (IPEN), with participation by RAPAM, *Organización y Desarrollo Social, S.C.* (Mexico), and the Arnika Association (Czech Republic), and made public in April 2005.<sup>35</sup>

In the study by Greenpeace, three samples of commercial brands of butter were taken, two from the state of Guanajuato and one from the state of Jalisco. Evidence of PCB, DDT, HCH and HCB was found.<sup>36</sup> In the case of dioxins, relatively high concentrations of hepta- and octochlorinated dioxins were found, at levels comparable to those in countries such as the United States, Israel, China and India.<sup>37</sup>

In the IPEN-RAPAM study, free-range chicken eggs collected in Coatzacoalcos showed high levels of dioxins (PCDD/Fs) and hexachlorobenzene and elevated levels of PCBs. The level of dioxins was 6-fold higher than the existing European Union (EU) limit for these chemicals and almost 19-fold higher than background levels. The hexachlorobenzene levels were also relatively high. In addition, the eggs exceeded the proposed EU limit for PCBs by 1.5-fold. To our knowledge, this study represents the first data about U-POPs in chicken eggs from Mexico.<sup>38</sup>

Considering the dioxin congener pattern in the eggs dominated by 2,3,7,8 TeCDF and the prevailing winds going towards the south and southeast, the most obvious source of dioxins and other chemicals in the eggs is the Pajaritos petrochemical complex and its associated waste incinerator.

A later study, conducted by RAPAM and with IPEN support, and focused on the Mexican Isthmus, offers an in deep analyses of the problems caused in the North by mercury and dioxin and furan releases in the production of chlorine-dichloroethane-vinyl chloride- in the Coatzacoalcos Petrochemical Complex and the associated companies and the later transformation on PVC products; the production of VCM has doubled and in consequence the dioxin releases can increase and it is not clear how the obligations of the Stockholm Convention are implemented or if they were just ignored. In the South of the Isthmus POPs pesticides pollution of traditional indigenous shrimp culture are illustrated.<sup>39</sup>

Despite all these efforts the Mexican government still has not developed a comprehensive national strategy for regular monitoring of POPs or Persistent Toxic Substances in the framework of the commitments made in the Stockholm Convention or in the Strategic Approach for International Chemicals Management (SAICM). This should be part of the agenda of the discussion of the National Implementation Plan of the Stockholm Convention and the development of a multilateral policy on chemical safety that will require the support of

International Funding Institutions (IFIs) and the exploration of internal economic instruments to implement it.

## **Participation of civil society in the elaboration of the National Implementation Plan**

Mexico lags seriously behind in establishing a National Coordinating Committee for developing Mexico's National Implementation Plan (NIP) for the Stockholm Convention. In September 2002, the Mexican government, through Semarnat, selected the World Bank as the Implementing Agency for receiving Global Environmental Facility funds allocated for developing the NIP. In the beginning, it had been agreed that the Commission for Environmental Cooperation (CEC) in Mexico would be the Executing Organization, with a Project Management Unit that would report to Semarnat, as the Chair of the Project Steering Committee. However, there were misunderstandings between the CEC and Semarnat that caused a delay of more than three and a half years in signing an agreement. Finally, Semarnat decided to be the Executing Organization, through an arrangement with Nacional Financiera (NAFIN), and an agreement was signed in 2006. Consequently, through NAFIN, Semarnat will receive 500,000 thousand dollars to carry out the NIP. As of this writing, a general coordinator of the NIP has been contracted and terms of reference of different types of consultancy work are on their way but no an official meeting of the Committee that explains how the public and stakeholders from citizen groups can participate has been established yet.

Various civil society organizations have expressed their support for, first the signing, then the ratification, and then the effective implementation of the Stockholm Convention. In a collective letter signed on May 17, 2004 by more than 50 environmental, social and academic organizations, a call was made to establish an Inter-sector Coordinating Committee for the National Implementation Plan as soon as possible. In November 2005 a similar recommendation was approved by Semarnat's National Advisory Council for Sustainable Development (*Consejo Consultivo Nacional para el Desarrollo Sustentable*) (an entity in which diverse sectors of national civil society are represented), for the establishment of the NIP National Coordinating Committee, with wide-reaching mechanisms for citizen participation, and in favor of alternative technologies to replace incineration and POPs-generating combustion technologies. Unfortunately, to date (March 2006) no official announcement has been made of the formal constitution of the committee or the mechanisms to be established for citizen participation. It is hoped this will take place in May 2006.

## **Recommendations**

It is recommended that the process of the development, implementation and monitoring of the National Implementation Plan (NIP) be characterized as follows:

1. **Inclusive**, that clear mechanisms for broad-based participation by diverse sectors of civil society be established, from the initial phase of the development of the NIP, as well as its compliance and monitoring. In addition to environmental organizations, it is important to remember that Article 7 of the Convention makes special mention of consultation with and cooperation from women's groups and groups involved in children's health.
2. **Transparent**, during the entire process of the plan's development, in its phases of development, implementation and evaluation. In other words, that clear, timely information be provided as to the objectives, and how they will be achieved, and how and why decisions are made, and that mechanisms for accountability also be established for all the phases.
3. **Prevention-oriented**, that it promotes the exchanging of information with other countries, for taking preventative measures and supporting the development of alternatives to POP-generating sources, with the objective of achieving the ongoing reduction and eventual elimination of POPs, and not remaining satisfied with only the reduction of POP releases or control processes at the end of the contaminating processes that generate these substances (see Articles 1, 3, 5 and 9 of the Convention).
4. **With a process to update the inventory of dioxins, furans, PCBs and HCBs, using emission factors that have greater scientific support.** Especially in the case of sources of uncontrolled combustion, to avoid overestimation it is proposed that the factors proposed by IPEN be used, in order to have a prioritization process and a quantitative estimate that is closer to reality, as well as on-site measurement for industrial sources.
5. **That it guarantees public access to information** regarding POPs inventories and the updating of those inventories, associated with measuring and estimating the releases of these pollutants in the environment, as a result of the use of PCBs, the involuntary generation of dioxins and similar compounds, as well as the wastes and sites contaminated by POPs. In order to guarantee this right, the obligatory report by company and by type of POP release, included in the Pollutant Release and Transfer Registry, according to the General Law of Ecological Equilibrium and Environmental Protection (LGEEPA) and the corresponding regulations, should be made public. Therefore, the emission factors for unintentional POPs that possess greater scientific support after a process of updating those proposed in the Toolkit, should be incorporated into the corresponding Mexican Official Standard and the guidelines for estimating pollutants.
6. **That it publicizes broad-based, widespread campaigns**, using various communication media, to inform, create awareness in and educate the public as to the environmental and health effects from POPs, especially for women, children and the less-educated sectors of the population, and regarding the alternatives to these pollutants, as established in Article 10 of the Convention.
7. **With a materials policy** that promotes Best Environmental Practices and Best Available Techniques for substituting practices, inputs, processes and products that lead to the unintentional formation of POPs, especially dioxins, furans, PCBs and HCBs, and that promotes cleaner forms of production in industry and agriculture (see Article 5).

8. **That it promotes alternatives to incineration** in any of its forms, and including alternatives to the burning of wastes in cement kilns, and in the treatment of wastes and accumulated stockpiles of obsolete POPs, in accordance with Articles 3, 6 and 9 of the Convention. In the case of existing incinerators, that a program be established for their definitive closing.
9. **With measures for fighting against the illegal trafficking of POPs** that have been prohibited in the country, especially pesticides, and with broad-based information made available to the public, regarding the environmental and health reasons for their prohibition, while at the same time strengthening the mechanisms for popular denouncements and the filing of legal complaints as established in the corresponding laws.
10. **That it promotes the cleaning up of sites that are contaminated** due to POPs production, accumulated stockpiles, or POP wastes, by means of environmentally sustainable technologies, and not including combustion technologies in order to avoid producing new POPs, and with the participation of local communities. We are also promoting the inclusion of the lower basin of the Coatzacoalcos River in Veracruz and Salamanca, Guanajuato in the area adjacent to the company where POPs pesticides have been produced for decades.
11. **With the monitoring of the POPs body burden**, placing special attention on the prevention of fetal exposure and the monitoring of mother's milk, to guarantee adequate reproductive health.
12. **With environmental monitoring of POPs in food, especially in meat and milk products**, since the main source of POP exposure in human beings is through the food they eat.
13. **With mechanisms for reviewing and adding new substances to the POPs list**, in coordination with the POPs Review Committee of the Stockholm Convention. We support the inclusion of lindane, as proposed by the Mexican government, and propose also to add endosulfan, 2,4, D and pentachlorophenol, as other organochlorine pesticides that share the same characteristics as POPs, and which are already prohibited in many countries.
14. **With mechanisms for assisting in the legal defense of and compensation for damages to persons and communities affected by POPs**, in the interest of an adequate application of the principle that the one who pollutes is the one who pays.

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