

**First National Workshop on Children's Health
and the Environment**

Mexico City, 21-22 June 2001

Introduction

The first national workshop on children's health and the environment was held in Mexico City on 21-22 June 2001. The objective of the workshop was to define environmental effects on children's health as a high-priority issue for the country, promoting the definition, development and implementation of policies, programs, strategies and actions for protecting the health of Mexico's children against environmental risks. We proposed to participants, especially coordinators of working groups and presenters, to direct their efforts during the event toward the future publication of a book for disseminating current knowledge on the topic, and identifying the deficiencies in existing information, as well as the areas urgently requiring improvement and ways to carry this out.

Given the enormous interest sparked by this topic in all sectors —academic, social, private and public— we found it necessary to expand the workshop's capacity to receive five times more participants and 40 additional presentations beyond those initially estimated. This enthusiastic response from the civil society was a reflection of the concern and awareness in Mexico with regard to children's health and the environment.

In terms of background, it is important to mention that in June 2000, the Council for the North American Commission for Environmental Cooperation (CEC) adopted Resolution 00-10 related to "Children's health and the environment." The resolution acknowledged that children may be vulnerable to environmental risks, and committed the Secretaries of Environment in Canada, the United States and Mexico to work together to develop an agenda that will make it possible to protect children from these risks. The resolution proposes that support be provided for carrying out a national workshop in Mexico. Given the fundamental component of health, the Secretariat of Environment and Natural Resources (*Secretaría del Medio Ambiente y Recursos Naturales*—Semarnat) requested assistance from the Environmental Health Department in the Secretary of Health (*Secretaría de Salud*—SSA) in coordinating and implementing the workshop. Therefore, the two Secretaries, with support from the CEC, jointly organized the workshop.

Working groups	Number of presentations
Air pollution and its effects on health	9
Water pollution and its effects on health	9
Cancer	9
Birth defects	9
Exposure to metals	9
Exposure to pesticides	6

Nutrition	3
Communication regarding risks and social participation	6

It became clear during the workshop that the factors having an impact on environmental risks for children in Mexico are different than those in other countries. The quality and availability of water in our country reflect severe social inequality, and for example, infectious intestinal diseases are among the first causes of childhood death in the states having primarily indigenous population. It is important to mention that from 1991 to 1998, the population having access to water increased from 79% to 86%, and the distribution of disinfected water increased from 85% to 93%. These measures have clearly contributed to resolving one serious water quality problem. In fact, in the same period (1991-98) death from infectious intestinal diseases in children under five years of age was reduced by 75%. Now, it is vital to identify and resolve water quality problems related to natural and anthropogenic releases that contaminate water for human consumption with metals, chemical substances—and even byproducts of disinfection—and that may have adverse effects on children's health.

In the case of chemical agents, we should emphasize the risk to children's health from exposure to pesticides. In our country the pesticide market has registered a significant increase in recent decades. This tendency has been accentuated to some degree by the Free Trade Agreement which allows trade between the United States, Canada and Mexico exempt from tariffs. A number of studies have found that pesticides may interfere with immune system, respiratory, thyroid and physiological-neurological processes in children. It is important to mention that in Mexico severe intoxication from pesticides diminished by 27% from 1997 to 1999. Nevertheless, in 1999, in a population of 11 million inhabitants in poor rural areas, 592 intoxications from pesticides were reported, of which 141 cases were in children between birth and 14 years of age. It is possible that these intoxications occur in children who work in agricultural fields helping their family, or who live in housing where these products are used or stored.

Also, in rural and indigenous areas of Mexico it is common to use firewood for cooking, affecting the quality of the air inside homes. Levels of PM10 averaging five times above the air quality standard for outdoor environments have been measured. Children who remain close to their mothers while they are cooking are constantly exposed to smoke. One of every three Mexicans living in indigenous communities cooks with firewood, and statistics indicate that severe respiratory illnesses are the first cause of death in children below the age of five in states with primarily indigenous population. For example, in one of Mexico's primarily rural states, respiratory illnesses are the third cause of death and the main cause of illness in children.

The interaction between poverty, nutritional status and exposure to environmental pollutants represents a risk that intensifies for children. Children living in poverty frequently present symptoms of malnutrition, have little access to sources of clean water, live in precarious housing, and do not have access to health services. For children suffering malnutrition, their bodies may have greater difficulty in detoxifying and

eliminating toxic agents, since some toxicants may be more easily absorbed or may interfere with the absorption of some nutrients. For example, a diet low in calcium, potassium, zinc, copper and iron has been linked to greater absorption of lead.

The problem of children's exposure to heavy metals was also discussed in the workshop. For example, glazed pottery cookware baked at low temperatures is still used for storing and cooking food in Mexico. This constitutes one of the main sources of lead exposure. Studies conducted in rural populations have reported that the babies of mothers who use glazed pottery cookware and who have lead concentrations in their own blood that are greater than 10 µg/dl, have twice as much lead in their blood as babies of mothers who do not use this cookware. The risk is particularly high for children, since children under two years of age absorb five times more lead through their gastrointestinal tracts than adults. For this reason, a program is underway at the National Fund for Folk Art (*Fondo Nacional de las Artesanías*) to find a lead substitute for glazing this cookware, in order to offer alternatives to potters and avoid endangering the health of children and the population in general.

PARTICIPATING INSTITUTIONS

Research and higher education institutions:

National Autonomous University of Mexico (*Universidad Nacional Autónoma de México*), Metropolitan Autonomous University (*Universidad Autónoma Metropolitana*), Morelos State University (*Universidad del Estado de México*), Center of Research and Advanced Studies (*Centro de Investigaciones y Estudios Avanzados*) at the National Polytechnic Institute (*Instituto Politécnico Nacional*), Technological Institute of Sonora (*Instituto Tecnológico de Sonora*), National Institute of Public Health (*Instituto Nacional de Salud Pública*).

Public sector:

Secretary of Environment and Natural Resources (*Secretaría del Medio Ambiente y Recursos Naturales*), Secretary of Health (*Secretaría de Salud*), Secretary of Labor (*Secretaría de Trabajo y Previsión Social*), Secretary of Public Education (*Secretaría de Educación Pública*), National Water Commission (*Comisión Nacional del Agua*), Mexican Water Technology Institute (*Instituto Mexicano de Tecnología del Agua*), Mexican Social Security Institute (*Instituto Mexicano del Seguro Social*), Institute of Social Security and Services for Government Employees (*Instituto de Seguridad y Servicios Social de los Trabajadores al Servicio del Estado*), National Indigenista Institute (*Instituto Nacional Indigenista*), Mexican Oil Institute (*Instituto Mexicano del Petróleo*), National Institute of Ecology (*Instituto Nacional de Ecología*), National Fund for Folk Art Promotion (*Fondo Nacional para el Fomento de las Artesanías*), Integral Family Development (*Desarrollo Integral de la Familia*), Mexico City Government.

Nongovernmental organizations:

Luna Nueva, A.C., Border Network on Health and Environment (Red Fronteriza de Salud y Ambiente)

International institutions and entities:

Pan American Health Organization, North American Commission for Environmental Cooperation (CEC), Environmental Protection Agency (EPA), Agency for Toxic Substances and Disease Registry (ATSDR), Environment and Canada (EC)

Private sector:

Dow Agrosciences de México, S.A de C.V., Industrias Peñoles, National Association of Chemical Industries (*Asociación Nacional de la Industria Química—ANIQ*)

A positive aspect of the workshop is that it ended with the signing of a joint statement by the Secretaries of Environment and Health, Víctor Lichtinger and Dr. Julio Frenk Mora, respectively, establishing "...a State Policy that permits joint prevention of and attention to health risks derived from environmental factors, aimed at achieving a framework of health-environment sustainability." More specifically, it is worth highlighting the initiative included on "A healthy environment for a healthy childhood," proposing that health care measures must target the air, water, food and the places where Mexican children live, learn and play. What better end to a workshop on children's health and the environment?

Dr. Leonora Rojas Bracho

A NOTE TO THE READER:

In order to build on the efforts of workshop participants and presenters, we decided to prepare this final report which includes summaries of the presentations sent in by the authors prior to the workshop. Each chapter corresponds to one of the working group topics, and therefore the contents are the authors' responsibility.

For the full proceedings (in Spanish) of this workshop please visit Mexico's *Dirección General de Salud Ambiental* web site, <<http://www.ssa.gob.mx/unidades/dirgsa/eventos.htm>> and scroll down to the *Eventos 2001* section or click on the chapter links below:

- **Índice:**
<http://www.ssa.gob.mx/unidades/dirgsa/downloads/saludinf/INDICE.pdf>
- **Nutrición:**
<http://www.ssa.gob.mx/unidades/dirgsa/downloads/saludinf/Cap01.pdf>
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