

Healthy Environments: Healthy Children

A Movement to Achieve Healthy Environments for Children of the Americas

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HEALTHY ENVIRONMENTS: HEALTHY CHILDREN IN LATIN AMERICA AND THE CARIBBEAN

Executive Summary

At the 2002 World Summit on Sustainable Development, the World Health Organization (WHO) harnessed both the interest and energy of many nations to improve children's environmental health. The WHO motivated nations, United Nations agencies, and non-governmental organizations to create a "mass movement for children's environmental health," stating that millions of children stood to benefit from the reduction of child deaths and disability caused by environmental degradation.¹ Celebrating its 100 years of facilitating public health in the Americas, the Pan American Health Organization is committed to working with member countries, national and international agencies, and experts throughout the world to improve environmental conditions so that children live happier and healthier lives and become productive members of our society.

American nations have issued many calls to action to improve children's environmental health; the Pan American Health Organization has both supported these and responded by developing "Healthy Environments: Healthy Children: A Movement to Achieve Healthy Environments for Children of the Americas." This is a strategy for Latin America and the Caribbean that draws on several programs, such as the integrated management of childhood illness, child and adolescent health, and environmental health. It aims to engage at local, national and regional levels, inciting movement throughout the hemisphere to improve the environments in which children live, grow, learn, play and work. The strategy centers around four goals as it seeks to improve public awareness, advocate for children, and recommend policy and programs and provide solid bases for decision-making. The strategy was designed in tandem with the World Health Organization Healthy Environments for Children Initiative and is consistent with children's environmental health programs in the region. The strategy sets forth actions in response to calls from leaders throughout the hemisphere to improve the health status of children in Latin America and the Caribbean.

¹ Press release, WHO website. Brundtland starts new movement to address environmental crisis affecting children's health, September 1, 2002.

INTRODUCTION

There is no task more important than building a world in which all of our children can grow up to realize their full potential in health, peace, and dignity.

Kofi A. Annan, New York, 2002

At the 1990 World Summit for Children, most nations of the world assumed the commitment to improve child health and well-being on an international level.² Today, leaders acknowledge that over five million children die every year from illnesses related to poor environmental quality.³ Years of disability, sick leave from school and parents' absence from work run into billions of unproductive days every year. Illnesses cost society dearly in terms of productivity and human suffering. Throughout the world, families and communities struggle to nurture sick children and grieve child deaths. The strategy intends to coalesce efforts and respond to the many calls to action by world assemblies and international commitments, in particular acting on those listed below.

- ? The World Health Organization launched the Healthy Environments for Children Initiative at the September 2002 World Summit on Sustainable Development in Johannesburg, South Africa, calling for national and local movements to ensure that children all over the world find themselves in places supportive of good health throughout the day.⁴
- ? The United Nations hosted a General Assembly Special Session on children in May 2002, continuing the campaign to improve the status of children worldwide. United Nations agencies sponsored a side event on children's environmental health, stressing the importance of the environment as an integral element of the holistic approach to attaining child health and welfare.⁵
- ? The Health and Environment Ministers of the Americas met in February 2002 and agreed to a common agenda that contributes to the quality of life of people in the western hemisphere. Ministers specifically urged the protection of vulnerable sub-populations and stated that to address the impact of environmental risks on children's health was a high priority.⁶

² Convention on the Rights of the Child, Office of the High Commissioner for Human Rights, in accordance with Article 49. September 2, 1990.

³ World Health Organization. *World Health Report*, 2002.

⁴ Healthy Environments for Children Alliance (HECA) website, accessed at <http://www.who.int/heca/en>

⁵ United Nations. *A World Fit for Children*. Resolution adopted by the General Assembly, October 11, 2002.

⁶ Health and Environment Ministers of the Americas, http://www.ec.gc.ca/international/regorgs/hema_e.htm

- ? The United Nations Millennium Goals, published in September 2001, called for a two-thirds decrease in the under-five mortality rate by 2015. Two leading causes of death in children under five in Latin America and the Caribbean are diarrheal disease and acute respiratory infections, both of which are caused or exacerbated by environmental contamination.⁷
- ? The NAFTA Commission on Environmental Cooperation (CEC) initiated a program on children's environmental health in 2000 and approved a Cooperative Agenda on Children's Health and the Environment in 2002.⁸
- ? The world community identified children's environmental health as a mainstream environmental priority, through the unanimously reached *1997 Declaration of the Environment Leaders of the Eight on Children's Environmental Health*, signed in Miami, Florida.⁹
- ? The 1992 Agenda 21 also highlighted the special vulnerability of children to environmental threats, reminding us that children account for a large percentage of the population, that they stand to inherit the world and that they are "highly vulnerable to the effects of environmental degradation."¹⁰
- ? The 1989 Convention on the Rights of the Child stressed the importance of nutrition and environment for the well-being of children, noting the dangers of environmental pollution and the need for safe drinking water and safe and adequate food supplies.

Importance of Children's Environmental Health

Children are the future of our world. In Latin America and the Caribbean, children make up nearly one-third of the population. At the same time, children are particularly vulnerable to the negative health consequences of environmental contamination. Where environmental conditions are the worst, children suffer the most; poor children by far suffer the heaviest burden of adverse health impacts due to environmental degradation. Parents, families, communities, and governments must advocate for children's well-being and PAHO lends assistance to countries in the Latin American and Caribbean Region through advocacy, science, capacity building, and program development.

- ? **Behavior:** Children hand-to-mouth behaviors render them vulnerable to the contaminants that may be present on their hands, floor, toys or other things they

⁷ United Nations Millennium Development Goals, accessed at <http://www.un.org/millenniumgoals.index>

⁸ Commission for Environmental Cooperation. *Cooperative Agenda for Children's Health and the Environment in North America*. <http://www.cec.org>

⁹ Environment Leaders' Summit of the Eight. Miami, Florida, May 6-7, 1997. Accessed at <http://www.g7.utoronto.ca/environment/1997miami/children.html>

¹⁰ United Nations Environment Programme, Agenda 21 accessed at <http://earthwatch.unep.net/agenda21>

put in their mouth. Some children may have a habit of eating soil. Children are very curious and have no sense of danger. They do not have the capacity to protect themselves or choose their environments.

- ? Exposure: Children spend more time outdoors than most adults, often engaged in vigorous play, requiring more air intake per body weight compared to adults. If there is environmental contamination, children will be more exposed to it. In addition, because they are shorter than adults, they are closer to exhaust outlets of vehicles, causing them to breathe greater concentrations of exhaust. Children also ingest more food and drink than adults in proportion to their body weight, thus, ingesting a larger proportion of the contaminants present in these media.
- ? Physiology: Children are less able than adults to metabolize, detoxify, and excrete toxic chemicals. They also undergo extensive growth and development from the fetal stage through their first years of life and into adolescence. The lack or maturity of organs and certain protections, such as the blood-brain barrier, in their first stages of life renders them more vulnerable to environmental insults.
- ? Social Status: Poverty, malnutrition, environmental injustice, and child labor are highly prevalent in Latin American and the Caribbean; this increases children's exposure to contaminants or their susceptibility to the effects of same

Children's Environmental Health Status in Latin America

Children in the Latin American and Caribbean Region face a double burden regarding environmental risks because they are exposed to underdevelopment-related hazards as well as to the emerging problems associated with rapid development. Infant mortality rates range from over 80 deaths per thousand in the poorest countries to five in others, averaging 35.7 across the Region.¹¹ Two of the five leading causes of child death in Latin America and the Caribbean are triggered or exacerbated by the environment.

Greater knowledge and more information about the environment are needed in Latin America and the Caribbean, particularly regarding its impact on children's health. At family, community, health professional, and governmental levels, a better understanding of children's environmental health is required to improve policies, support regulations, report incidence of environment-related diseases, provide information on progress and trends, and change behavior.

¹¹ Health Situation in the Americas: Basic Indicators 2001. Washington, DC, PAHO/WHO, 2002.

Key Areas of Concern in Latin America and the Caribbean

The Latin American and Caribbean Region is diverse in its culture, climate, and economy. Each country faces unique challenges to improve children's environmental health. While there are priority areas for action to improve children's environmental health in the Region, each country must also focus on its own national plan. Some of the key concerns for children's environmental health across the Region are associated with drinking water and sanitation, air quality, agricultural chemicals, toxic substances, and climate. All of these sources of exposure are exacerbated by situations of poverty. Many dangerous exposures occur in situations of children at work, even when laws are set to protect children from dangerous occupational exposures, primarily by making hazardous child labor illegal.

Water resources, water quality, and basic sanitation

Although the number of deaths due to acute diarrheal disease has dramatically decreased, it is still a leading cause of illness among children under five in Latin America and the Caribbean. Disinfection of drinking water, access to adequate sewage disposal, and availability of sufficient water for basic hygiene purposes, significantly decreased the morbidity and mortality levels associated with diarrheal disease. The emergence and improvement of oral rehydration therapy has worked to decrease child mortality from diarrheal disease; however, unless the environmental conditions change, morbidity levels will remain.

Indoor and outdoor air quality

Acute respiratory infection is the most common cause of illness among children and a major cause of death in the world. In Latin America and the Caribbean, acute respiratory infection is the main cause of death among children under five. Both indoor and outdoor air quality impact children's health.

- ? The household use of biomass fuel for cooking and heating is prevalent in rural areas in the Region. Surveys conducted to determine smoke concentrations in houses that use biomass fuel have reported particulate levels that exceed the WHO recommended levels by 100 to 1.000 times. Environmental tobacco smoke is also a contributor to indoor air pollution.
- ? Outdoor air pollution is a key concern in the Region, both in mega and mid-sized cities and rural areas. Vehicular exhaust and fixed sources contribute significantly to particulate and sulfur dioxide emissions. Several studies conducted in Latin America and the Caribbean report an increase in childhood morbidity associated with poor air quality, in particular small particulate and ozone.

Heavy metals

- ? Lead: Concern over the prevalence of lead exposure has focused on children because of their susceptibility to its adverse health effect on growth and neurobehavioral development. Childhood lead poisoning is preventable and is one of the major challenges of public health programs worldwide. The major sources of lead exposure include fixed industrial sources, including smelting, petrochemical processing, and mining. Some countries still use gasoline with high lead content and some countries of the Region are major lead producers. Poorly made ceramics that use lead-based glazes fired at low temperatures are also significant sources of lead ingestion of Children in the region.
- ? Mercury: This metal is particularly dangerous to fetuses, infants, and young children. Mercury is used as a leachate to extract gold from poor quality ore in Latin America, can be used as an additive to gasoline, and is a by-product of burning mineral coal. Water contaminated by mercury leads to fish contaminated with mercury, which humans ingest when they eat the fish.
- ? Arsenic: Naturally occurring arsenic, as well as arsenic resulting from mining practices, contaminates water in areas of the Region, with particular concern in Argentina, Chile and Mexico. Exposure to arsenic is known to cause skin disorders ranging from the development of dark spots to a hardening of the skin, often on the palms and soles. Arsenic exposure is also related to cancer occurrence and to the development of adverse effect in other systems.

Pesticides and Nitrates

Children are often exposed to pesticides and nitrates through the agricultural and home use or ingestion of residues in food or water. Some pesticides interfere with physiological processes of the child, including the immune, respiratory, and neurological systems. Pesticides are often incorrectly handled, producing acute intoxication among workers and their families and contaminating water, soil, and foods. Chronic exposure is also a concern because of its potential association with cancer, developmental neurotoxicity, teratogenesis, and endocrine disruption. Pesticides are used throughout the Region in three typical scenarios: agriculture, domestic use and control of vector-borne diseases, in particular malaria and dengue. Children who work in agricultural settings are often dangerously exposed to pesticides and other agrochemical products. Countries still import and produce pesticides which have been banned or severely restricted from the United States and Europe for many years.

Climate variability and change

Climate and weather affect the availability of food and water, as well as housing security. In addition, extreme weather events cause disasters that affect human health

and well-being, through drought, flooding, and severe storms. These can also lead to the spreading of insect vectors that cause diseases. These effects may increase the occurrence of diarrheal disease and acute respiratory infections, as well as spread malaria, dengue, and other vector-borne diseases. Changes in climate and expectations that changes will continue are a matter of concern for countries, especially low-lying and island states. The Caribbean Islands are of particular concern in this regard.

Healthy Environments: Healthy Children

Governments have called for action. Children have suffered illness and death. Science has highlighted concern. Children need protection from environmental threats. PAHO has therefore created “Healthy Environments: Healthy Children: A Movement to Achieve Healthy Environments for Children of the Americas” with the vision that children in the Region can live, grow, learn, and play in an environment that is supportive of good health.

Healthy Environments: Healthy Children is a mechanism that helps PAHO target actions, develop programs, and seek the resources required to meet its objectives. It is set to collaborate with the World Health Organization strategy on children’s environmental health, as well as other international, regional, and national efforts to improve the status of children in Latin America and the Caribbean. This initiative calls for building awareness on children’s environmental health, promoting science for environmental decision-making, advocating for children’s environmental health, and supporting specific projects that lead to improved environmental management associated with children’s health.

The initiative Healthy Environments: Healthy Children will compliment ongoing programs such as the Integrated Management of Prevalent Childhood Illnesses (IMCI), which tackles the major killers of children through prevention and treatment and improving skills of health staff, health systems, and family/community practices. Such programs benefit the initiative with existing infrastructure, networks, and ongoing efforts. PAHO developed the initiative in collaboration with the World Health Organization’s “Healthy Environments for Children Initiative,” offering regional implementation of a global program. PAHO will operate within existing environmental health networks and with governments that are already working to improve children’s environmental health, so that research findings and other lessons learned can be shared across the Region.

Funding

PAHO is grateful for the initial funding from U.S. Centers for Disease Control to support research on children’s environmental health in Latin America and the Caribbean. PAHO has worked with several U.S. government agencies, including the

Department of Health and Human Services and the U.S. Environmental Protection Agency. As PAHO moves forward with the Healthy Environment: Healthy Children initiative implementation, the organization will seek to continue close collaboration with the U.S., Canada, the Commission on Economic Cooperation, and other sub-regional programs that offer resources to support efforts. PAHO will also seek to raise funds from donor and foreign aid organizations to pay for specific projects. While PAHO continues to seek funding from extramural resources, it will work internally to identify core budget and ongoing projects that work to implement the initiative goals.

HEALTHY ENVIRONMENTS: HEALTHY CHILDREN

VISION AND GOALS

VISION: Children in the Latin American and Caribbean Region live, grow, learn, and play in an environment that is supportive of good health.

GOALS:

We make all people, especially children, aware of the special vulnerability of children to environmental threats and of the need to protect children from environmental hazards.

We promote scientific research and are a source of expertise, scientific information, and indicators on the prevalence of environmental exposures and their impact on children's health.

We advocate for children's environmental health and enhance the capabilities of health and environmental authorities to develop and implement prevention and control measures that better protect children from environmental threats.

We contribute worldwide to improve the status of children's environmental health.

HEALTHY ENVIRONMENTS: HEALTHY CHILDREN

Strategy and Action Plan

OBJECTIVE: Communicate, Educate, and Raise Awareness

Strategy: Raise the awareness of decision-makers in various sectors of member states, especially health, environment, and labor sectors, regarding priority children's environmental health issues.

Actions:

- ? *Inform and advise health and environment ministries, as well as other pertinent ministries, such as education, labor, commerce, and agriculture.*
- ? *Inform and advise town officials, communities, schools, aid agencies, volunteer corps, and other pertinent groups.*
- ? *Work with nations or sub-regional organizations to host national and regional meetings and conferences on children's environmental health.*
- ? *Participate and encourage country and regional participation in international meetings and conferences on children's environmental health.*

Strategy: Raise awareness of the public, especially children, using mass media, schools, and community-based educational activities.

Actions:

- ? *Provide information on children's environmental health through the web site and list servers hosted by CEPIS/PAHO.*
- ? *Prepare and disseminate printed material, including brochures, reports, and publications.*

- ? *Work with the media to disseminate information through radio, television, and printed press on core children's environmental health issues and locally relevant environmental health problems.*
- ? *Provide assistance to ministries of health, environment, education, and labor to promote comprehensive approaches to environmental health in schools, including skills-based school health education, school health services, community and family involvement and outreach, and health promotion for school staff.*
- ? *Identify existing data and develop new information and educational material and make it available via the CEPIS/PAHO website and through existing educators associations and networks.*
- ? *Work with local non-governmental organizations and other community groups to create and disseminate culturally relevant information about the special vulnerability of children to environmental threats and take practical steps to protect children.*

OBJECTIVE: Generate Information and Report Indicators to Assess Status of Children's Environmental Health

Strategy: Develop or adopt existing indicators, collect information, and report results to communities, governments, and regional and international organizations.

Actions:

- ? *Contribute to the "Global Initiative on Children's Environmental Health Indicators," including the "Framework for Children's Environmental Health Indicators of North America."*
- ? *Develop and gain country approval of indicators to assess the status of children's environmental health in Latin America and the Caribbean.*
- ? *Increase surveillance of children's environmental health and establish mechanisms for sharing information across countries.*
- ? *Develop and publish an annual report on the status of children's environmental health in Latin America and the Caribbean, submitting the report to PAHO at its annual meetings, as well as to the World Health Organization, the United Nations Millennium Goals secretariat, and other pertinent groups.*
- ? *Support the incorporation of indicators at national and local levels, through active surveillance systems, to determine environmental exposure and health outcomes related to water quality and basic sanitation, indoor and outdoor air quality, heavy metals, and pesticides.*

Strategy: Support research and data collection.

Actions:

- ? *Identify, assess, and study the main environmental health problems affecting children and evaluate potential solutions.*
- ? *Identify and study emerging problems related to children's environmental health.*
- ? *Plan and coordinate cooperative research among countries and organizations.*
- ? *Conduct pilot projects to assess exposure and health impacts of environmental exposure in selected countries, as well as to evaluate interventions and technologies.*

Strategy: Support the development of harmonized tools and methodologies for case data collection, risk assessment, and information dissemination.

Actions:

- ? *Review and develop risk assessment methodologies that incorporate children as special groups and work to share these among countries, via networks throughout the Region.*
- ? *Develop a methodology to study children's risks in contaminated sites.*
- ? *Review, adapt, and implement harmonized case data collection systems and surveillance mechanisms.*
- ? *Create centers or units of children's environmental health to improve the capabilities of health professionals, promote cooperative and multidisciplinary research and collect and disseminate harmonized data.*
- ? *Develop and enhance communication among a network of centers and US, Canadian, Latin American, and Caribbean institutions to exchange information on children's environmental health issues and to develop collaborative projects.*

OBJECTIVE: Promote Public Policies to Protect Children's Environmental Health

Strategy: Strengthen infrastructure and human resources in the Region, especially scientists and health professionals, in the emerging field of pediatric environmental health.

Actions:

- ? *Assist countries in developing capabilities to inform and train health personnel on the recognition, assessment, management, and prevention of environmentally related diseases in children.*
- ? *Work with the worldwide Healthy Environments for Children Alliance and the WHO Department for the Protection of the Human Environment to develop and disseminate guidelines for including environmental health in patient case history records.*
- ? *Prepare and distribute informative materials on environmental issues related to children's health for primary care physicians in the Region.*

Strategy: Convene regional meetings and promote dialogue on regional and international bases that further the protection of children from environmental threats.

Actions:

- ? *Work with the worldwide Healthy Environments for Children Alliance and the WHO Department for the Protection of the Human Environment and a selected country to host the next international meeting on children's environmental health.*
- ? *Develop and maintain a list of upcoming meetings, devising a plan for regional, sub-regional, or national participation.*
- ? *Participate as a member of the secretariat to implement agreements of the health and environment ministers of the Americas.*

Strategy: Advocate for the protection and promotion of children's environmental health at all levels, through the implementation of promotional and prevention programs.

Actions:

- ? *Promote environmental health policies that protect children, including commitments to end child labor, particularly the most dangerous forms of child labor.*
- ? *Develop case studies, including lessons learned to help promote children's environmental health.*
- ? *Facilitate participation of civilians and other stakeholders in shaping national and regional actions to mitigate and prevent threats to children's environmental health.*
- ? *Assist countries with the development of national action plans to better protect children's environmental health.*
- ? *Assist communities with the development of local action plans to better protect children's environmental health.*

OBJECTIVE: Implement Regional and Global Actions to Better Protect Children from Environmental Threats

Strategy: As the Regional Office of WHO for the Americas, participate in and contribute to the global Healthy Environments for Children Alliance.

Actions:

- ? *Provide assistance and leadership to specific WHO projects in the region.*
- ? *Provide assistance and leadership to WHO projects designed to alleviate problems associated with working children in the region.*
- ? *Maintain communication and seek to coordinate regularly with WHO on children's environmental health, sharing information and participating in regional and international meetings, workshops, and other events.*

Strategy: Contribute to the design, development, and implementation of projects in the Region.

Actions:

Water Resources, Water Quality, and Basic Sanitation

- ? *Assess progress to date and continue implementation of the 1997 regional model to improve microbiological quality of drinking water in Latin America and the Caribbean, modifying as necessary.*
- ? *Work with countries to gain support for and develop implementation strategies for the safe water initiative of the World Summit on Sustainable Development.*
- ? *Provide information, updates, lessons learned, and other input to national, regional, and international governments and organizations as progress is made on safe water and basic sanitation initiatives.*
- ? *Work with non-governmental organizations, such as AIDIS, to raise awareness and develop water quality and basic sanitation programs.*
- ? *Work with the World Bank and the Inter-American Development Bank under the shared agenda in water quality and basic sanitation projects.*

Indoor and Outdoor Air Quality

- ? *Assess progress to date and continue implementation of the PAHO Regional Plan on Air Quality and Health.*
- ? *Work with countries to gain support for and develop implementation strategies for the clean air initiative of the World Summit on Sustainable Development.*
- ? *Provide information, updates, lessons learned, and other input to national, regional, and international governments and organizations as progress is made.*
- ? *Work with WHO to implement the Tobacco Free Initiative, promote the Convention on Tobacco and support other WHO initiatives to improve air quality in Latin America and the Caribbean.*
- ? *Work with non-governmental organizations, such as the PAHO's NGOs Network and the Inter-American Association of Sanitary and Environmental Engineering to raise awareness and develop air quality programs.*
- ? *Work with the World Bank and the Inter-American Development Bank under the shared agenda in air quality projects.*

Heavy Metals

- ? *Develop a regional plan to reduce or eliminate exposure to toxic metals such as lead, mercury, arsenic, and nickel.*

Pesticides

- ? *Develop a regional plan to reduce or eliminate exposure to persistent organic pollutants, in particular pesticides.*
- ? *Work with countries and sub-regional institutions to help bring into force the Stockholm Convention on Persistent Organic Pollutants.*
- ? *Promote on a regional basis the development of a pollutant release and transfer registry as a tool to manage exposure to chemical releases.*

Climate Variability and Change

- ? *Support scientific research to improve the understanding of health and environment effects of climate variability and change in Latin America and the Caribbean.*

- ? *Work with UNEP and, as needed, countries and sub-regional institutions to help bring into force the Kyoto Protocol and to embark on the required reduction in emissions of greenhouse gases.*

Child Labor

- ? *Participate in efforts to reduce or eliminate child labor in the region, in particular the most dangerous forms of child labor.*
- ? *To continue the implementation of PAHO's regional plan on worker's health to lower incidence of illegal child labor, including reduction of use of children in agricultural practices, child scavengers, and child vendors in busy and polluted city streets.*

PROGRESS AND SUCCESS INDICATORS

The project will report indicators to show an overall status and change in status of children's environmental health. PAHO will use easily accessible information and will initially collect bench line data. PAHO will work over the next few months with several ongoing efforts on children's environmental health indicators to select representational indicators that give an overall indication of progress of the improved status of children's environmental health. The PAHO website already provides excellent data sources on health status of children. Other indicators to assess accomplishments of each objective will be developed.

Potential list of Indicators of Children's Environmental Health

- ? Under-five child mortality.
- ? Deaths among children under five caused by diarrheal disease.
- ? Deaths among children under five cause by acute respiratory infection.
- ? Deaths among children under five known to be caused by acute poisoning.
- ? Incidence of cancer among children 18 years of age and younger.
- ? Average blood lead level in children 18 years of age and younger.
(Not currently available for Latin America and the Caribbean).
- ? Percentage of children under 18 with asthma.
- ? Occupational and non-occupational accidents.

OTHER POTENTIAL INDICATORS BY OBJECTIVE

Indicators to Show Status of Communication, Education, and Awareness Raising

- ? Extent of dissemination of environmental information.
- ? Participation of schools and the ministry of education in environmental education.
- ? Participation of and follow-through by ministers of health and ministers of environment of the Americas process.
- ? Level of interest by leaders of countries and regional organizations in hosting and participating in events associated with health and environment, particularly those that incorporate children.

Indicators to Show Status of Information Generation and Reporting on Children's Environmental Health

- ? Automated and coordinated mechanism to collect data on environmental health topics including:
 - ? Diarrheal disease, indoor air quality, outdoor air quality, lead blood levels, and poisonings.
 - ? Participation of medical and clinical facilities in WHO effort to incorporate patient environmental history into patient case history records.

Indicators to Report Status of Public Policies to Protect Children's Environmental Health

- ? National budget dedicated to providing drinking water infrastructure.
- ? National budget dedicated to providing sanitation infrastructure.
- ? Existence of national laws to regulate drinking water, sanitation, air quality, lead in gasoline, lead in other consumer products, pesticide regulation, and reduction of ozone producing substances.

Indicators that Show Implementation of Regional and Global Actions to Better Protect Children from Environmental Threats

- ? Participation in international agreements that aim to eliminate lead in gasoline, chemicals that are persistent organic pollutants, prior informed consent for import/export of chemicals, reduction of ozone producing substances, and reduction of greenhouse gases and other known causes of climate change.