

Taking action



Taking action to protect children from environmental hazards¹

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In protecting children's environmental health, every level has a role to play, from members of the family and community to local, regional, national and international bodies. Everyone has a part in offering children the best chances in life, and in making a difference in how they live, grow, play, learn, develop and eventually work and become productive members of society. While noteworthy accomplishments at all levels reach a variety of people, much remains to be done to sustain progress and intensify change. Certain countries have leapt into action while others hardly know of the concern. Global movements will narrow gaps between countries in the level of effort and involve progressively more regions of the world, enhancing opportunities for children in all countries to have healthy and productive lives.

Families, carers and teachers

Parents, child care providers and teachers can make a tremendous difference in the health of children through actions at home, in the child care setting and at school. These adults can provide role models for healthy behaviour and teach and guide children to create healthy environments. Efforts to motivate teachers in Chinese schools to refrain from smoking, for example, have improved the quality of indoor air in the schools and may influence children not to smoke. "Tools for Schools" is a programme in the USA that teaches children, teachers and administrative staff to conduct indoor air audits in schools and take action to remedy sources of pollution. In Australia, many schools are joining the SunSmart Schools Program, which involves the whole school community in protecting children from overexposure to the sun. Parents, child care providers and teachers can find success acting alone or with others to improve

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children’s environmental health. Individual and local level effort will make a difference for children and may have greater impact than anticipated.

Ideas for action at the local level

The United States Environmental Protection Agency has developed “Tips to protect children from environmental risks” (7), which have been disseminated through doctor’s offices, schools and on the Internet. These are practical, action-oriented steps that parents and carers can take to protect children. Any individual or group could develop similar tips and share them as part of a community education effort, focusing on local issues of greatest concern for children’s well-being.

Tips to protect children from environmental risks^a

Help children breathe easier

- Don’t smoke and don’t let others smoke in your home or car.
- Keep your home as clean as possible. Dust, mould, certain household pests, second-hand smoke, and pet dander can trigger asthma attacks and allergies.
- Limit outdoor activity on “ozone alert” days when air pollution is especially harmful.
- Walk, use bicycles, join or form carpools, and take public transportation.
- Limit motor vehicle idling.
- Avoid open burning.

Protect children from lead poisoning

- Get kids tested for lead by their doctor or health care provider.
- Test your home for lead paint hazards if it was built before 1978.
- Wash children’s hands before they eat; wash bottles, pacifiers, and toys often.
- Wash floors and window sills to protect kids from dust and peeling paint contaminated with lead—especially in older homes.
- Run the cold water for at least 30 seconds to flush lead from pipes.

Keep pesticides and other toxic chemicals away from children

- Store food and trash in closed containers to keep pests from coming into your home.
- Use baits and traps when you can; place baits and traps where kids can’t get them.
- Read product labels and follow directions.
- Store pesticides and toxic chemicals where kids can’t reach them—never put them in other containers that kids can mistake for food or drink.
- Keep children, toys, and pets away when pesticides are applied; don’t let them play in fields, orchards, and gardens after pesticides have been used for at least the time recommended on the pesticide label.
- Wash fruits and vegetables under running water before eating—peel them before eating, when possible.

Box continued

Protect children from carbon monoxide (CO) poisoning

- Have fuel-burning appliances, furnace fluids, and chimneys checked once a year.
- Never use gas ovens or burners for heat; never use barbecues or grills indoors or in the garage.
- Never sleep in rooms with un-vented gas or kerosene space heaters.
- Don't run cars or lawnmowers in the garage.
- Install a CO alarm that meets UL, IAS, or Canadian standards in sleeping areas.

Protect children from contaminated fish and polluted water

- Be alert for local fish advisories and beach closings. Contact your local health department.
- Take used motor oil to a recycling centre; properly dispose of toxic household chemicals.
- Learn what's in your drinking water—call your local public water supplier for annual drinking water quality reports; for private drinking water wells, have them tested annually by a certified laboratory. Call 1-800-426-4791 or contact www.epa.gov/safewater for help.

Safeguard children from high levels of radon

- Test your home for radon with a home test kit.
- Fix your home if your radon level is 4 pCi/L or higher. For help, call your state radon office or 1-800-SOS-RADON.

Protect children from too much sun

- Wear hats, sunglasses, and protective clothing.
- Use sunscreen with SPF 15+ on kids over six months; keep infants out of direct sunlight.
- Limit time in the mid-day sun—the sun is most intense between 10 and 4.

Keep children and mercury apart

- Eat a balanced diet but avoid fish with high levels of mercury.
- Replace mercury thermometers with digital thermometers.
- Don't let kids handle or play with mercury.
- Never heat or burn mercury.
- Contact your state or local health or environment department if mercury is spilled—never vacuum a spill.

^a Developed by the US Environmental Protection Agency.

Communities and local governments

Enforcement of environmental regulations, housing initiatives, school and hospital administration, disease surveillance and reporting, and other public services usually fall within the jurisdiction of local governments, offering many opportunities to make communities “child friendly” in the environmental health context. Local governments often serve as first-line response to environmental incidents and are the key communicators with the general public. Not only are they responsible for communicating about risk and public safety, they also are the intermediaries between national policymakers and citizens. They can take proactive and preventative steps by promoting community events, sponsoring poison control centres, and creating innovative ways to educate and protect the public, especially children.

National governments

The words of a head of state can generate attention, political will and funding. National governments can gear environmental protection systems and structures to improve children’s environmental health, supporting decentralized initiatives and working to formulate regulations and comply with national mandates. National governments are the ultimate champions for children’s environmental health, and should monitor it through data collection and analysis. They should support communication and national public awareness efforts, pilot actions, specific projects and more. In addition, national govern-

Community meetings lead to reduction in childhood asthma

Particulate matter and harmful fumes are by-products of the combustion process used in foundries that melt scrap iron. Residents of Sandwell, an urban area in the United Kingdom, became concerned about the respiratory health of their children, who attended schools close to such a foundry, and organized a public meeting to discuss the issue. The resulting measures taken by the foundry management led to a significant reduction in asthma-related hospital admissions of schoolchildren in the area (Case Study 21, page ●●).

The United States Environmental Protection Agency ushered children’s environmental health into the international arena, through its insistence on the importance of children’s environmental health for discussion by environment leaders of the group of eight highly industrialized countries (G-8) in 1997. With the unanimous adoption of the Declaration of the Environment Leaders of the Eight on Children’s Environmental Health, the world took notice that children, both in developing and industrialized countries, could be at more risk from environmental threats than had previously been assumed. Not only did the Declaration help focus the G-8 national governments on improving policies and efforts within their own borders, it also inspired other international bodies to call for actions to protect children’s environmental health, heightening the awareness of other country leaders.

ments should contribute to international efforts that spread the message beyond their borders, promote collaboration and strengthen the agenda at home.

International and global efforts

Over recent years, the international agenda has given considerable attention to children's environmental health, setting a framework for action by individuals and entities worldwide. Recent examples of progress on the international front include the following:

- At the World Summit on Sustainable Development in Johannesburg, South Africa, September 2002, the World Health Organization called for a global movement to improve children's environmental health, motivating countries, United Nations agencies and non-governmental organizations to create a "mass movement for children's environmental health". The organization has since taken steps to form a global Healthy Environments for Children Alliance to support countries as they strive to improve children's environmental health through national and local efforts (2). WHO regional offices have begun facilitating regional and national efforts to improve children's environmental health.
- The Commission for Environmental Cooperation of North America adopted an agenda for action on children's health and environment in June 2002 (3).
- In May 2002, the United Nations convened a General Assembly Special Session on children, which hosted side events on children's environmental health and resulted in a document that stressed the environment as an integral element of child health and welfare.
- Countries of South-East Asia and the Western Pacific were addressed by the International Conference on Children's Environmental Health: Hazards and Vulnerability, which took place in Bangkok, Thailand, in March 2002, resulting in the Bangkok Statement: a pledge to promote the protection of children's environmental health (see Chapter 1). The Statement urged the World Health Organization to support efforts in the region to improving children's environmental health.
- The United Nations Millennium Development Goals published in September 2001 called for a two-thirds decrease in the under-five mortality rate by 2015, which will require action to reduce illness and death from diarrhoeal disease and acute respiratory infections, two leading environment-related causes of death worldwide.

Ready . . . set . . . go!

From very small, local, community-based steps to dramatic international accords, children's environmental health continues to gain momentum, expand

its audience and increase in significance. There is growing recognition that environmental health is both a right of children and the basis for sustainable development. Simple actions can improve the lives of children and give them children the best possible opportunities.

With the goals of increasing public awareness, defining the roles and responsibilities of health professionals, and achieving government buy-in and policy change, four action areas have been defined: communication, education, advocacy and research. Efforts to inform people about children's environmental health have tremendous potential. As people become more informed, health professionals will need more knowledge to answer their questions. As health professional training changes to incorporate the recognition and management of environmental exposures and the particular vulnerabilities of children, health workers will add to the awareness and information sources of parents and of children themselves. As the competence of health professionals increases, they will begin to identify gaps in knowledge and research needs, make recommendations to policy-makers, and advocate for change to protect health and prevent disease. As people become more informed and health professionals more vocal, government officials will set policies that protect children from environmental harm. As governments champion country efforts, national movements will start that will serve to raise public awareness and improve professional education. Action targeted to any of these areas will result in positive effects all around.

Communication and public awareness

Communication and public awareness efforts involve a broadly based approach to inform people of all ages and functions, from children to heads of state, leading to an increased understanding of the importance of protecting children from environmental harm. Internet resources are powerful mechanisms to facilitate information exchange, allowing participation of individuals, communities and national groups in global efforts. Both formal and informal actions to raise public awareness have proven successful.

Education

Actions in the area of education aim to increase the competence of health professionals, especially those dealing with children. They need to learn how to recognize and manage the health effects of environmental exposures, and to break the cycle of exposure, illness, treatment and re-exposure. Physicians, nurses, midwives and other health professionals are in the front line of children's environmental health, and can use their clinical experience, scientific expertise and research efforts to work closely with children of all ages, their parents, families and carers. Increasing competence of health professionals in children's environmental health can have significant influence, leading to greater public understanding and awareness, improved diagnosis and treatment

of environmentally related diseases, and extended advocacy efforts to promote policies that protect environmental health. The general outline of courses offered by WHO is presented in the box below.

Children's environmental health for health care provider

Contents of a training course

- 1. New knowledge on the vulnerability of children to environmental hazards**
 - a Why are children more vulnerable than adults?
 - b The developing child and the effects of neurotoxicants (lead, mercury, manganese, PCBs)
 - c Lung development and the effects of environmental pollutants
 - d Vulnerability to pesticides: new data and growing concern
 - e Genes as a target for environmental toxicants, malnutrition, micronutrients and toxic effects (including methylmercury, arsenic)
 - f The effects of UV radiation on eyes, skin and the immune system
 - g Other examples.

- 2. How, when and where does exposure occur? Environmental threats in specific settings and circumstances, *in utero* and during childhood and adolescence: “children growing in an adult-size world”**
 - a The poor home: particular risks (shanty towns); living near waste sites; polluted urban areas; rural areas; streetchildren; parental exposure
 - b Where the child plays: playgrounds (outdoors, indoors); recreational areas; hobbies
 - c Where the child learns: child care centres; schools
 - d Where the child works: cottage industry; factory; rural areas; street vendors; domestic workers; scavengers
 - e Where the child is especially stressed: extreme and adverse climatic conditions (e.g. mountains, hot and cold weather); environmental and technological disasters (floods and droughts); war; conflict and postconflict circumstances; refugee camps
 - f Exposure of parents: transgenerational effects.

- 3. Understanding the main environmental threats and setting the priorities for action**
 - a Access to safe drinking-water and sanitation
 - b Indoor air pollution: open fireplaces indoors, environmental tobacco smoke (parents); solvents; moulds; pet dander; other
 - c Ambient air pollution and the health of children from rural and urban areas: sulfur dioxide (SO₂); nitrogen oxides (NO_x); diesel fumes; fine particulate matter; lead; benzene; open burning (waste and other); other
 - d Asthma and other respiratory diseases in children: role of the environment
 - e Traffic-related paediatric pathology. Giving priority to children in township development planning: “child-size traffic”. Rural traffic accidents

Box continued

- f Non-intentional, intentional and environmental toxic exposures
- g Exposure to pesticides: acute and chronic effects
- h Endocrine disrupters
- i Drugs of abuse
- j The working child
- k Lifestyle changes influencing housing, transport and children's social surroundings

4. Assessing the global burden of environmental threats to the health of children

- a The concept of global environmental burden of disease (GEBD) in children
- b Harmonized procedures, tools and methodologies; guidance for assessing the GEBD in children; indicators of children's environmental health
- c Information available in developing and industrialized countries/regions; national profiles
- d Priorities identified (incl. main controversial issues)

5. Controversial issues, dilemmas and knowledge gaps in the area of children's environmental health (CEH)

- a The risks of living near hazardous waste sites, landfills and open burnings
- b Asthma: the contribution of indoor and outdoor environments
- c The potential effects of climate change (emerging infectious diseases and climate refugees)
- d Noise, hearing loss and other health effects in children
- e What is known about endocrine disrupters and CEH?
- f Cancer and environmental factors: how much do we know?
- g Birth defects, reproductive disorders and environmental factors
- h Is there a "safe" blood lead and mercury level in children?
- i The potential effects of exposure to low chronic radiation levels and electromagnetic fields
- j Problems posed by cyanobacteria in water and other contaminants
- k Parental exposure

6. Ensuring the appropriate risk assessment in developing children

- a Setting environmental guidelines and standards.
- b Considering variability in exposure and response
- c Critical windows of exposure
- d Special consideration of developmental effects
- e Cumulative toxicity/mixtures, multiple exposures
- f Recommendations for improved methodologies for exposure assessment and determining health effects

Box continued

7. Incorporating CEH issues in the work of child health professionals

- a Recognizing the links between paediatric morbidity and environmental threats in the micro- and macroenvironments of children
- b Clinical observations: harmonized case data collection and analysis
- c Taking the paediatric environmental history: from symptoms to etiology to prevention
- d Detecting emerging diseases and signals of environmental illness in the community
- e Reporting and publishing observations
- f Undertaking research studies
- g Evidence-based interventions: illustrative cases
- h Communicating with parents, teachers, the community, media, local authorities and decision-makers

Advocacy and public policy

These activities aim to improve the state of the environment and target policies towards children's health, so that local, regional and national governments act to improve both the environment and the health of children and those around them. In many countries, governments lead the effort. In other countries, policy-makers react to public and professional demands. All levels of society can advocate for children's environmental health and influence policy agendas. A global effort to develop children's environmental health indicators is under way, coordinated by the World Health Organization and the United Nations Children's Fund (UNICEF). Indicators of children's environmental health offer a tool to policy-makers for determining priorities and measuring progress towards set goals. Governments have the opportunity to join the global initiative on children's environmental health indicators by contacting WHO or UNICEF.

Research

Promotion of collaborative research in children's environmental health in developing and developed countries is essential if problems are to be addressed in their national and global contexts. The results of appropriate studies can be used in strategies for prevention, intervention, and remedial action, and as a foundation for evidence-based public health policies in countries. Collaborative activities would also result in technology transfer and capacity building, and in the development of a network of trained scientific collaborators throughout the developing world.

National profiles and indicators

WHO has developed indicators of children's health and the environment and other tools to assist countries in assessing the status of children's health and determining the readiness of governments to effect change. A format for doing rapid assessments that may help countries to prepare their national strategies is shown in the box below.

Outline for preparing national profiles on the status of children's environmental health

NOTE: please use the boxed headings as sub-headings in the country/local profile you develop. Use the questions proposed as a guide for obtaining and collating information and developing an overall assessment of each area. These questions are intended to provide some orientation on the type of information that is relevant for assessing the status of children's health and the environments. Develop up to three paragraphs for each of the underlined headings, expanding even beyond the questions provided, as deemed necessary. Please take into account for each question the potential gender, rural/urban, cultural and ethnicity issues. Tables necessary to make a point can be annexed. The profiles should cover both existing situations, observations and ongoing activities as well as potential opportunities for actions that could be implemented at the country level. Profiles should be dated: once the **initial** profile is done, successive ones may be prepared on an annual basis to assess progress made and/or changes observed concerning the status of children's health and the environment in the country.

INTRODUCTION

Overview of children's environmental health in the country

Provide a general synopsis of the country's views and position on children's environmental health, for example, the awareness level of government officials (especially in the health and environment sectors) and the acceptance of this as a distinct issue.

Key environmental issues

WHO lists the following key environmental risks for children: unsafe water, air pollution (indoor/outdoor), poor food hygiene, poor sanitation and inadequate waste disposal, vector-borne diseases and exposure to chemicals (agrochemicals, industrial chemicals, persistent toxic substances, natural toxins and other). In addition, children's health is endangered by other environmental risk factors, such as: poor housing, environmental degradation and the so-called "emerging" threats (e.g., global climate change, ozone depletion, radiation, exposure to endocrine-disrupting compounds, and others). Prioritize these for your country according to the impact they have on children's health, development and well-being. Add areas of focus if necessary. Propose a prioritized list of environmental concerns for children's health your country.

Key causes of infant and under-five mortality/morbidity

This information is normally readily available from WHO websites or in the WHO representations in the country. List the top five causes of illness and death for children under one, for children five and under, for children up to 14 and for children as a whole. As the age groups of children vary somewhat from country to country, please define the age group that you are reporting (e.g., some use 18 and under, some 20 and under).

Burden of disease related to environment in children

WHO has some information available on its website (www.who.int/phe/health-topics, search for “environmental burden of disease”) and at the WHO representation. WHO reports that environmental threats may cause up to one-third of the global burden of disease. What does the country report? Are there any significant differences between boys and girls or between rural and urban children? Has this issue been addressed at the country level or does it remain to be done?

ECONOMIC STATUS AND ETHNIC GROUPS

Economic spread between poorest and wealthiest

What is the percentage share of income or consumption for the wealthiest 10% of the population? What is the percentage share of income or consumption for the poorest 10% of the population?

Information on high risks/vulnerable groups and demographic profile of countries

Provide the approximate numbers or percentages of each ethnic population group in your country and the geographic areas they occupy. To what extent are environment and health statistics or any other statistics routinely desegregated by socio-economic status or ethnicity? Do national environmental or other sectoral policies make specific reference to ethnic groups or to groups that are geographically isolated? Is there any evidence of the impact of ethnicity or socio-economic status on the burden of disease related to environmental threats? Are there any activities on ethnic minorities (and their children) undertaken by international institutions or non-governmental organizations to which an environment and health component might be added?

NATIONAL GOVERNMENT ROLE

National policies

Are there specific national policies or stated priorities that support the protection of children's environmental health? Are there specific national policies or stated priorities that seem to run counter to the objectives of increasing protection of children from environmental threats (e.g., lax pesticide or toxic chemical regulations, persistence of lead in gasoline despite the proven health benefits of removing it)?

Health sector

How does the health sector address environmental health in general and children's environmental health specifically? Is there legislation to protect public health from environmental

hazards and is this legislation well-implemented? Is there any action to protect vulnerable sub-populations or children in particular? Are the medical, nursing and healthcare professional communities informed and/or trained on environmental threats to human and—more specifically- on children’s health? Are there health facilities that promote environmental health or children’s environmental health? Describe the differences in approaches to environmental health in rural and urban settings. In the specific area of chemicals, is there a Poisons Center in your country or a toxicology or other unit that deals with toxic exposures in children? Where are poisoned children seen and treated? Are chronic, low-level exposures to chemicals in children being considered? Has any action been taken concerning the potential effects of Persistent Toxic Substances (and POPs)?

Environment sector

Discuss the country’s environmental legislation and its level of enforcement. Is human health considered by the environmental legislation and/or is protecting human health part of the mandate of the environment ministry? Are there any specific considerations concerning children? Are specific media, such as water, air, soil, food, or chemical safety covered by environmental legislation? If so, list which media are covered and list any gaps. Does the environment ministry coordinate well with other ministries, such as health or education and, if so, which ones? Has the country signed the international conventions/treaties dealing with toxic chemicals/pollutants (e.g., The Stockholm Convention on Persistent Organic Pollution, The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, and The Rotterdam Convention for Prior Informed Consent)? Have the actions taken in the context of these conventions/treaties considered the potential impact on children’s environmental health?

Education

What is the level of literacy in the country? How many children go to school, and up to what levels? Is attendance in the schools required up to a certain age? Are there differences in male/female school attendance? For elementary school and for high school, what are the opportunities for health and environmental education? Is there an environmental or a health curriculum taught in these grade levels? If so, are these taught in both rural and urban schools? Would environmental health education through elementary schools be possible and/or acceptable in the school systems?

Other pertinent ministry/sector

If applicable, list other pertinent ministries or governmental agencies that deal with children’s health and the environment (e.g., in certain countries some of the environmental issues may be regulated through the ministries of agriculture, industry, youth, social well-being or others). In many countries there are ministries of culture, science, education, welfare, and family and youth issue that may play a role in the protection of children’s environmental health. What are the ministries or agencies at the national government level which would play a role in implementing a national action plan on children’s environmental health? List and describe the role they play.

SOCIETY ROLE

Communities

Do the governmental units at the community level (e.g., county seats, communal or city governments) play a role in the protection of environmental human health—and more specifically-children’s environmental health? If not, what role could they play or might they take at a local level to better protect children from environmental threats? Do they have the ability to pass local legislation? Are they charged with enforcing national legislation? Could they be enticed to carry out public information campaigns on children’s environmental health?

Non-governmental organizations

Do NGO’s play a strong role in building stakeholder input and public participation? What are the key NGOs (both national and international) involved in activities aiming at the protection of children’s environmental health, organizing national campaigns on children’s environmental health or promoting children’s chemical safety? If none has been doing this, which one could eventually be interested in this area? What roles might they play?

Professional associations

Do professional associations play a strong role in building stakeholder input and public participation? What are the key professional associations (both national and international) that would become involved in children’s environmental health? (e.g., pediatric, medical, toxicological, family doctors, occupational medicine, nursing, primary health care, and any other societies) What roles might they play?

Academia

What academic institutions (e.g., academies, post-graduate schools) could promote children’s environmental health through research, advocacy, publications, medical education (of medical and post-graduate students and continuing medical education), development/use of children’s environmental history taking, and development/use of indicators? What role would each play?

Private sector

Are there any private companies that would likely be interested in promoting the safety and health of children in the country? For example, pharmaceutical, hygiene and cosmetic products companies, agricultural chemical companies, water companies, food and beverage producers? What roles could the private sector take—, considering always all ethical aspects involved- in the different areas (e.g., financing activities, public advertisements, educational campaigns, or advocating in favor of national legislation?

SCIENCE

State of the science in the country (in relation to CEH)

Has anyone in the country conducted research and published results on topics related to environmental health or children’s environmental health (e.g., on the risk factors mentioned

above, on, children's settings, on specific topics such as chemical safety and poisonings)? Name the country's science ministry or unit in the government that conducts research and publishes findings. Is environment or health legislation based on scientific findings?

Capabilities to conduct research

What institutions promote science and research in the country? Does the national government invest in research and development? What type of scientific publications is released in the country? Is financing available to support research at universities, hospitals, laboratories or other facilities? Which institutions would most likely be interested in research on children's environmental health?

Research needs

List the top priority research needs around the topic of children's environmental health in the country. Is research on these topics underway? Are there barriers to conduct this research and, if so, what would help overcome the barriers? What are the needs? What are the top three ways in which an international organization or other countries or organizations could support research?

DATA AND REPORTING

Information systems and centers

Does the country have a centralized information gathering function on children's health data? (e.g., health surveillance system, clinical case recording) Does the country have national or private information centers, for example on health, demographics or environment? Does the country require reporting of certain pediatric diseases to support public health surveillance and disease prevention and, if so, how is that information gathered and where? Are there poison control centers in the country and, if so, do they record in-coming and out-going information in a harmonized manner? Does the country report indicators on environment or health? Does the country put out regular reports on disease, public health or environmental conditions? If so, how are they accessed by the public?

Data quality

The WHO national offices are most likely involved in data gathering on health, and local UNICEF and UNDP offices probably work on information collection systems, as well. Do these offices judge data quality as good enough to be useful and representative? Are there other entities that collect data on health, environment or status of children in the country? Can the national work on Millennium Development Goals help to clarify and address barriers to data quality in the country?

COMMUNICATION

Avenues of communication

What are the most effective means for disseminating information in the country (e.g., television, radio, newspaper, and role-playing)? Are these the same for both rural and urban

settings? If not, list by rural and urban. What are the most effective means for communications through schools, adult literacy programs, country or local governments? Are there other innovative means of communication, for example through local libraries, street theatres, radio/TV educational “soap operas,” fairs or other local events?

Success stories in communication

Do you know of any local success stories in widespread communication on important topics related to health and the environment? (e.g., use of radio-based literacy programs targeting children in rural areas may increase adult and child literacy and led to a decrease in child agricultural workers and improve matriculation in rural schools). Could these success cases repeat themselves, this time carrying a message of children’s environmental health?

CONCLUSION

Summary of the country status of children’s environmental health and opportunities for action

Given your findings, in a page or less, summarize your assessment of the country’s potential, capacity and interest to take action to improve the environmental health of its children. What specific actions in this area are recommended? What are the areas/issues for natural success? What are the areas/issues where urgent actions are required? What are the key barriers or areas that need to be addressed to achieve success? Who (individuals and organizations) are the key players?

Annexes. Please provide any samples of useful or illustrative materials, such as educational, awareness building, information gathering, data collection forms, educational programs, photographs, maps, charts, other.

A special invitation for nongovernmental organizations

Nongovernmental organizations (NGOs) have excellent opportunities to promote awareness of environmental hazards to children. They can use radio, television, newspaper advertisements, street theatre, health fairs, and other innovative ways to improve public awareness, increase training for health care professionals, enhance access to information and advocate for better policies. The information era affords enormous potential to broadcast messages, reaching urban and rural areas alike. Religious leaders can also have a strong impact, reaching receptive audiences who want to take actions that benefit children.

Many NGOs actively promote activities that support the environment, from nature conservation to sustainable development, but there are relatively few in the field of environmental health or environmental medicine, particularly dealing with the special vulnerability of children. Two organizations that have reacted to the realization that children are particularly susceptible to environmental risks

are the International Society of Doctors for the Environment (ISDE; www.isde.org) and the International Network for Children's Health and Environmental Safety (INCHES; www.inchesnetwork.org). Some countries have national networks for children's environmental health, such as the United States Children's Environmental Health Network (CEHN; www.cehn.org), the Canadian Institute for Child Health (CICH; www.cich.ca) and the German Network for Children's Health and Environment (www.kinder-agenda.de). The websites of these national networks are rich in information resources and links.

Conclusion

Pollution and other environmental threats do not recognize borders. Action is required at all levels: even local, community-based activities may end up having great influence around the world. The history of children's environmental health demonstrates how local actions may have a global impact: a non-governmental organization with a clear mission convinces a minister of environment, who motivates an international declaration, boosting children's environmental health into the mainstream international agenda. Not only do actions at the different levels affect those in the immediate area, they also create energy for public good with worldwide benefits. Everyone at every level can do something to improve children's environmental health and advance sustainable development while contributing to the health, increased productivity and well-being of children around the globe.

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