

Shape the Future of Life



World Health Organization



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Shape Healthy Environments for Children



The children of today are the adults of tomorrow. They deserve to inherit a safer, fairer and healthier world. There is no task more important than safeguarding their environment.



World Health Organization





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Message by Dr Gro Harlem Brundtland

Director-General, WHO



The biggest threats to children's health lurk in the very places that should be safest – home, school and community. Every year over 5 million children ages 0 to 14 die, mainly in the developing world, from diseases related to their environments – the places where they live, learn and play. These diseases include diarrhoea and malaria as well as other vector-borne diseases, acute respiratory infection and unintentional injuries (accidents).

These deaths can be prevented. We know what to do. Strategies have been developed to combat these threats to children's health. They need to be implemented on a global and national scale. So this year's World Health Day is dedicated to ensuring Healthy Environments for Children.

We all need to do more to tackle environmental risks to children's health. As you will see in this brochure, the burden of disease from environment-related diseases is great and falls disproportionately on children. In September 2002, WHO launched the Healthy Environments for Children Initiative. We are now working with different groups around the world to turn this initiative into a vibrant, global alliance which will be capable of mobilizing local support and intervening to make children's lives healthier where they live, learn and play.

By working together on many fronts, by building on existing programmes, and by adapting concrete actions to local needs, members of the alliance can make a difference. Together, we are better able to confront the environmental health issues faced by communities, countries, regions and sectors all around the world.

Every child has the right to grow up in a healthy home, school and community. The future development of our children – and of their world – depends on their enjoying good health now.

Introduction



A child's world centres around the home, school and the local community. These should be healthy places where children can thrive, protected from disease.

But in reality, these places are often so unhealthy that they underlie the majority of deaths and a huge burden of disease among children in the developing world. More than 5 million children from 0 to 14 years old die every year from diseases linked to the environments in which they live, learn and play – their home, their school, their community.

Degraded environments are the breeding ground for germs, worms and disease-bearing insects. Half a billion children worldwide are debilitated by diseases such as malaria, schistosomiasis, dengue fever and cholera.

Many environmental threats to children's health are aggravated by persistent poverty, conflicts, natural and man-made disasters, and social inequity. The children worst affected are those in the developing world but there are many children in the more developed, even the richest, countries, who are also at risk.


Children have a unique vulnerability. As they grow and develop, there are "windows of susceptibility": periods when their organs and systems may be particularly sensitive to the effect of certain environmental threats.

Some environmental diseases result in long-term disability; others cause more immediate and short-term effects. Some may result in conditions such as blindness, crippling disease and mental retardation. Those children who are chronically sick or disabled cannot regularly attend school and so their social and intellectual development suffers.

In turn, this huge burden of ill-health among children constrains the social and economic development of their countries. Children with chronic disease and long-term disability will not grow up to be healthy and productive people. People are their countries' greatest resource, essential for achieving sustainable development.

"At the beginning of this Summit, the children of the world spoke to us in a simple yet clear voice that the future belongs to them, and accordingly challenged all of us to ensure that through our actions they will inherit a world free of the indignity and indecency occasioned by poverty, environmental degradation and patterns of unsustainable development."

Johannesburg Declaration on Sustainable Development



Currently, the economic burden of environment-related disease is enormous.

- Africa's gross domestic product would probably be about US\$ 100 billion higher if malaria had been tackled successfully 30 years ago.
- In the late 1990's, according to one source, China lost up to a staggering 7.7% of its potential economic output because of ill-health caused by pollution. Two conditions linked to air pollution – chronic obstructive pulmonary disease and lower respiratory tract infections – accounted for 1.9 million annual deaths for all ages – over 21% of all deaths in China.

- There is evidence that exposure to toxic substances may cost developed countries more than US\$ 300 billion per year. In the USA alone, the annual costs of certain childhood environmental diseases are estimated to be US\$ 55 billion.

But when environmental risks are reduced, the financial gains are considerable. Research suggests that Mexico City would benefit by perhaps as much as US\$ 2 billion a year if officials reduced the particulate matter in the air by just 10%. In the USA, children are already benefiting from past policies on lead-free gasoline that have reduced their exposure to lead. According to one report, for each year's cohort of children, the economic benefits are estimated to be between US\$ 110 and US\$ 319 billion.

Children are particularly vulnerable to environmental hazards because they are constantly growing, and consume more food, air and water than adults do in proportion to their weight. Their immune, reproductive, digestive and central nervous systems are still developing and they spend their time closer to the ground where most dust and chemicals accumulate.

Characteristics associated with children, such as their natural curiosity and lack of knowledge, are aggravating factors. Children can also be exposed to harmful environmental hazards before birth, for instance through maternal addiction to tobacco and other substances. Exposure to environmental risks at early stages of development can lead to irreversible damage.



The suffering of children because of environmental hazards is not inevitable. There are solutions; most of the environment-related disease and deaths can be prevented. Never before has there been such a range of tools and strategies to protect children from the dangers lurking in their environments. The Healthy Environments for Children Alliance will mobilize these tools and strategies through a worldwide movement, involving a wide range of stakeholders, building on the work that is already being done.



The problem

What are the environmental risks to children?



For many children, their personal world is often small, limited to their home, school, the street outside, play areas, and the homes of their extended family. But these places can also put children, from an early age, at risk from environmental dangers – and these risks are increasing.

Generations of children have suffered from certain “basic” risks existing in their environments. These are unsafe drinking water, inadequate sanitation, indoor air pollution, insufficient food hygiene, poor housing and inadequate waste disposal.

Today’s “modern” risks result from the unsafe use of dangerous chemicals, the inadequate disposal of toxic waste and other environmental hazards, noise and industrial pollution. Unsafe chemicals in toys and household products may also harm children.

“Emerging” potential environmental threats to health include global climate change, ozone depletion, contamination by persistent organic pollutants and chemicals and other hazards, and emerging diseases.

A healthy place for every child

Children are often exposed not just to one risk factor at a time but to several simultaneously. They frequently live in unsafe and crowded settlements, in underserved rural areas or in slums on the edges of cities which lack access to basic services such as water and sanitation, electricity, or health care. They are likely to be exposed to industrial and vehicle pollution as well as to indoor air pollution and to unsafe chemicals. Children are also likely to suffer from unintentional injuries (accidents) and poisonings associated with unsafe housing and consumer products. They are more likely to be undernourished, causing them to be more vulnerable to environmental threats.



At home

Many children are born at home, and spend a major part of their young lives there. But from conception, their health may be adversely affected by hazards in the home such as lack of sufficient water, indoor air pollution, inadequate hygiene, contaminated food and water, and many others.

A day in Devi Priyadarshina's Life, Asia

"I live with my parents and my two younger brothers in a small house made of mud and bamboo. I have never been to school as I have to help my mother collect wood to make a fire for cooking."

"Everyday I get up very early to collect water from a stream in a large clay jar, half an hour from my village. It's very hard work, I do it twice a day. After carrying the water home, I do the cooking for the rest of my family. I do it on an open fire, and sometimes it makes it very difficult to breathe, because my house has no chimney and only one small window. Especially during the monsoon season, when we have to keep the fires smouldering all the time, including the night, because of the cold, then the house gets very

smoky. One of my younger brothers often complains about his eyes, which are painful because of the smoke."

"The water I collect is dirty and my brother and I often get diarrhoea because of it."

"My house doesn't have a bathtub so I wash outside three times a week using a bucket of water, and go to the toilet near our house. I usually go after dark when people can't see me. Often people from nearby villages throw their garbage in the stream. I have been told that I could get sick because of the mosquitoes and other insects that are here... but what else can I do?"



A day with Rita in Europe

"My name is Rita McDowell and I am a volunteer at the free children's health clinic for the B1 low-income housing district. I have been a clinic volunteer for seven years, and during this time I have become aware of the differences that exist between the B1 district and other districts in the city. In B1, the level of asthma and domestic accidents among young children is comparatively very high. The number of children that have learning disabilities and perform badly in school is also staggering in comparison. These differences have made me aware of how much housing conditions impact health. Two years ago, the B1 housing complexes were surveyed. The inspectors found that nearly half of the inhabitants were suffering from a very noisy environment. Others had musty and

leaking stairwells and common areas, and all of them had serious cockroach infestations and were severely overcrowded. To add to this dramatic picture, the poorest children were living in places where no paint work had taken place for the past 40 years and were consequently exposed to dust contaminated with lead paint flakes. We can link these conditions to the health problems we are seeing in the clinic; the connection is completely apparent to anyone who has studied the issue! But nonetheless, upgrading housing, especially in low-income areas that are already government subsidized, takes time. It disheartens me so much though, because these children are growing and developing now. They don't have time to wait. And surely decent housing is possible for even the poorest."

At school



The school, which encompasses the building, its contents and the site on which it is located, shares many of the same health risks as the home – as well as others specific to its environment.



A day with ESmeralda Montoya in Latin America

“My name is Esmeralda Montoya and I am an elementary school teacher. I work in a school that does not have functioning toilet facilities; they have not been working for the last year, and each month we ask that someone be sent to fix them. No one ever comes because the government has no money to send anyone or to buy supplies. The children have to go in the street or the nearby bushes if they need to use the bathroom. Many of the girls have spoken to me about this. They are scared, because there is a lot of violent crime in this area.”

“It is more than the toilets that are falling apart in this school. The roof has been leaking for years now and we have no heating, and sometimes even no electricity, when the winter rains come. The children get colds and coughs because it is so damp inside in winter. We have mould on the walls and floors, and because we don’t have enough desks, the children sit on the floor in the damp! I think many parents want to stop sending their children to this school, but they have no choice: they know that education is the only way for their children to get out of the poverty that surrounds us. But sometimes, as I teach, I wonder...how much good does this school actually do? Can the children even concentrate in these conditions?”

In the community

A child's community includes a number of places – playgrounds, gardens, fields, ponds, rivers or waste dumps, but their relative importance depends on a child's way of life. For instance, millions of children throughout the world live on the street and are vulnerable to a myriad of hazards including violence and unintentional injury as well as environmental risks such as infection from scavenging on waste dumps. Many children work from a young age so they are exposed to the same environmental risks in the workplace as adults. But they are more susceptible to their effect, and usually less aware of the risks or even more powerless to tackle them.

A day with Gladys in Africa

"My name is Gladys Wemombi. I am the mother of three children. My eldest son and his friends walked their way through the garbage this morning, scavenging for recycled material among the twisted metal of wrecked cars, plastic shreds and batteries leaking acid. You say this is dangerous. I already know. I have picked broken glass from his bleeding feet. That is why he is not permitted to play here, only to work. There is no one to take him to a hospital if he really gets hurt.

You are a city worker here to warn us of the spring floods. You say the waters of the river below will rise and will wash away our homes. Then it will foul the city streets. You explain that the same water we take to drink and to wash our clothes, has been poisoned with heavy metals leaching from the mines. It was risky to build here, you say. The slope is dangerously unstable."

"We have been told to leave before, but no one has ever said where we could go to."

"I walk with you down the short distance from the dump to our homes. You say the stench from there is more bearable here. We pass stagnant pools of water, and you point out mosquito larvae shimmering on their surface. These will bring malaria, you warn."

"You are impressed with our home: the way it has been constructed with scraps of wood and metal; the way we have crafted useful objects out of other people's garbage. Poor people know how to do things. I know this."



The priorities and solutions for creating healthy places



The risks to children in their everyday environments are numerous. But there are six groups of environmental health hazards that must be tackled as priority issues – household water security, lack of hygiene and poor sanitation, air pollution, vector-borne diseases, chemical hazards, and unintentional injuries (accidents). These risks exacerbate the effects of economic underdevelopment and they cause the bulk of environment-related deaths and disease among children.

For most of these priority risks, security, stability, emergency preparedness and economic development are key to overcoming them. While experience shows that even in underdeveloped economies, these risks can be significantly reduced, experience also shows that, in higher income societies, the overall burden of environmental diseases in children decreases – at the same time as the relative priorities change. Therefore, regions and countries will have to set their specific priorities to complement these global ones.

There are many solutions to these environmental health problems. A range of effective interventions exists in the areas of policy, education, awareness raising, technology development, and behavioural change. Such interventions can be extremely cost-effective and are implemented by policy – and decision-makers, householders, communities, educators, government officials and many other stakeholders. Below we give a few indicative examples of actions that can be taken – the lists are not exhaustive but illustrate a range of actions that can be considered. Of course, the specific interventions that are implemented in any one setting will depend on the nature and severity of the problem, the local context, the resources available, and the priorities to be addressed.

Household water security



Household water security covers the reliable availability of safe water in the home for all domestic purposes. Access to a reliable safe water supply is a human right as defined in the General Comment on the Right to Water and the Declaration on the Rights of the Child. If access to safe water is reliably assured, it contributes greatly to health – enabling and encouraging hygiene through key actions such as handwashing, food hygiene, laundry and general household hygiene. When household water security is endangered, contaminated water may transmit disease and lack of water may prevent minimum hygiene behaviours to protect health.

Many of the diseases prevented through use of water in hygiene are the same as those that can be transmitted by water when contaminated.

The most important of these is diarrhoea, the second biggest child-killer in the world. Diarrhoea

is estimated to cause 1.3 million child deaths per year – about 12% of total deaths of children under five in developing countries. Other infectious diseases with similar patterns of transmission include hepatitis A and E, dysentery, cholera and typhoid fever.

Lack of household water security is also associated with skin and eye infections including trachoma, and with schistosomiasis, which may be acquired whilst collecting water from infested sources.

Many chemicals that have the potential to harm people's health can be found in drinking water. For example, an excess of fluoride is associated with crippling skeletal fluorosis. In countries where high levels of arsenic are found in drinking water, the symptoms of arsenicosis are sometimes seen amongst young children.

In 2000 WHO and UNICEF estimated that 1.1 billion people lacked access to an improved

water source. Access to an improved water source may be as little as a protected well or spring within an hour's walk of home. But the number of people without access to reliable safe water in or just outside the home is undoubtedly far greater than the number with access to an "improved" source. Around 80% of this "unserved" population live in rural areas. Where water must be collected from remote sources – whether protected or not – it is often women and children who have this task.

Some examples of effective actions to protect children from risks from water are:

- Extending access to improved sources amongst the "unserved" in rural and urban areas.
- Targeting hygiene education on key behaviours at both children and adults.

- Safe water storage at home – and treatment of water in the home when its quality is in doubt – reduces water contamination and leads to proven health benefits.
- Reliable safe water supply in schools has a direct impact on health and provides a model intervention serving as an educational contribution.
- Protecting all water resources from contamination will contribute to health (that is, not only sources of drinking water but also, for example, water used for bathing and fishing).
- Targeted measures in areas affected by hazardous chemicals in drinking water such as lead, fluoride and arsenic.



Hygiene and sanitation



The safe disposal of human faeces – including those of children – is a prerequisite to protecting health. In the absence of basic sanitation, a number of major diseases are transmitted through faecal pollution of the household and community environment. These include diarrhoea, schistosomiasis, hepatitis A and E, dysentery, cholera and typhoid fever. Lack of sanitation is also associated with infection with helminth and with trachoma. Trachoma causes irreversible blindness and today about 6 million people are visually impaired by this disease.



Globally, 2.4 billion people, most of them living in peri-urban or rural areas in developing countries, do not have access to any type of improved sanitation facilities. Coverage estimates for 1990 and 2000 show that little progress was made during this period in improving this situation. The lowest levels of facility coverage are found in Asia and Africa where 31% and 48% of the rural populations, respectively, do not have access to adequate sanitation facilities.

Even if good sanitation facilities are available, they are not always enough to improve people's health. Children and adults must be encouraged to wash their hands with soap or ash before meals and after defecating.

Some examples of effective actions for improved hygiene and sanitation are:

- Ensure that children have access to safe sanitary facilities and that children's faeces are safely disposed of.
- Adequate and separate latrines for boys and girls in schools can encourage latrine use and thus reduce disease transmission.
- Proper waste management and relocation of waste dumps away from human settlements protect children from scavenging and from exposure to hazards.
- Washing hands with soap before meals and after defecating significantly reduces the risk of diarrhoeal disease.

Air pollution



Air pollution is a major environment-related health threat to children and a risk factor for both acute and chronic respiratory disease as well as other diseases. Around 2 million children under five die every year from acute respiratory infections. Many are aggravated by environmental hazards.

Indoor air pollution is a major factor associated with acute respiratory infections in both rural and urban areas of developing countries. A pollutant released indoors is often more dangerous to a child's lungs than a pollutant released outdoors. One important

concern in developing countries is the exposure to combustion products from biomass fuel and coal, plus reduced ventilation in homes and other places. In the industrialized world, poor indoor environments are characterized by reduced ventilation, high moisture, the presence of biological agents such as moulds, and a range of chemicals in furnishing and construction materials.

Outdoor air pollution, mainly from traffic and industrial processes, remains a serious problem in cities throughout the world, particularly in the ever-expanding megacities of developing countries. It is estimated that a quarter of the world's population is exposed to unhealthy concentrations of air pollutants such as particulate matter, sulphur dioxide, and other chemicals.



Some examples of effective actions to protect children from air pollution are:

- Good ventilation, clean fuels and improved cooking stoves decrease indoor air pollution and the exacerbation and development of acute respiratory infections.
- Protecting children from smoking and from second-hand tobacco smoke reduces the risk of respiratory disorders and other ill-health effects later in life.
- Use of unleaded gasoline reduces lead exposure in children and prevents developmental disorders.
- Sound transport and health policies reduce respiratory illness and unintentional injuries in urban children.
- Realization of clean air implementation plans reduces the exposure of children to outdoor air pollution.



Disease vectors



In principle, all vector-borne diseases are a serious threat to children's health. Some, however, pose a specific threat to children, because a child's immune system is unable to cope with the assault by the infectious agent, or because the way a child behaves may increase vulnerability to disease. These diseases include:

Malaria, which is transmitted by the mosquito, overwhelmingly kills children. Ninety percent of the burden of malaria is concentrated in sub-Saharan Africa, with over a million deaths a year, mainly of children under five.

Lymphatic Filariasis, an infection of parasitic worms lodging in the lymphatic system, can cause the deformations typical of the disease ("lymphedema" and "hydro-coele") in children as young as age 12. The decrease in healthy life caused by this disease is second only in its magnitude to malaria.

Schistosomiasis, a water-based disease caused by bloodflukes (worms that live in the bloodstream), affects children and adolescents. Chronic infection leads to debilitation and degenerative disease. Two hundred million people are infected around the world.

Japanese encephalitis is found in the irrigated rice production systems of South and South-East Asia. Outbreaks particularly affect children under five (about 90% of cases); an average of 40,000 clinical cases are estimated to occur each year, with a mortality rate of 20%. Of the survivors, 50% will be affected mentally for life.

Leishmaniasis, a parasitic disease transmitted by sandflies, manifests itself either in skin lesions or in damage to internal organs – the latter form is life threatening with an estimated 59,000 deaths in 2001. Every year an estimated 2 million cases of cutaneous leishmaniasis occur, and an estimated 95% of patients are children under 5 years old.

Dengue fever also affects young children disproportionately in high burden countries. The disease's most lethal form, dengue haemorrhagic fever, kills, on average, over 10,000 children each year. During major outbreaks, children's hospitals can come to a grinding halt as wards are overwhelmed by admissions.





Some examples of effective actions to protect children against disease vectors are:

- As children usually go to bed earlier than adults, at the time mosquitoes become active, the use of insecticide-treated mosquito nets and the screening of windows, doors and eaves provide a very effective means of protecting them against malaria.
- General environmental management, including improved water management in irrigated areas, placing cattle strategically between breeding places and homesteads, and drainage or filling of water collections, may help reduce transmission risks in some settings.
- Combined irrigated rice production and pig rearing close to housing must be avoided in South and South-East Asia to break the Japanese encephalitis cycle.



- Hygiene education and designated safe places to swim (kept snail free through regular mollusciciding, an application upstream of a chemical which eliminates snails), as well as other environmentally sound measures and periodic deworming, will reduce the transmission risks of schistosomiasis and help control morbidity.
- Cover water storage containers and periodically empty and dry out various containers that retain water including buckets, discarded food containers, drums, flower vases, and car tyres (where water can collect). This will help bring down dengue transmission risks.



Chemical hazards

As a result of the increased production and use of chemicals, a myriad of chemical hazards is nowadays present in children's homes, schools, playgrounds and communities. Chemical pollutants are released into the environment by unregulated industries or are emitted from heavy traffic or toxic waste sites. About 50,000 children, aged 0-14 years old, die every year as a result of unintentional poisoning.

Pesticides unsafely used, stored and disposed of may harm children and their environment. Household cleaners, kerosene, solvents, pharmaceuticals and other chemical products become dangerous if they are kept in inappropriate containers and in places that are accessible to children. Small children are "natural explorers": they may ingest dangerous chemical products and suffer acute poisoning. The result can be life threatening.

Chronic exposure to various pollutants in the environment is linked to damage to the nervous and immune systems, and to effects on reproductive function and on development. This is because exposure occurs during periods of special susceptibility in the growing child or adolescent. For example, children are very vulnerable to the neurotoxic effects of lead in paint and air, which may reduce their IQ and cause learning disabilities. They are also vulnerable to the developmental effects of mercury released into the environment or present as a food contaminant. Most exposures to toxic chemicals and pollutants are preventable. A number of tools and mechanisms are available to help identify chemical hazards, create safer environments and prevent children's exposure.

Some examples of effective actions to protect against chemical hazards are:

- Ensure safe storage and packaging, and clear labelling, of cleaners, fuels, solvents, pesticides and other chemicals used at home and in schools.
- Promote the use of child-resistant packages for pharmaceuticals and for chemical products.
- Inform parents, teachers and childminders about the potential chemical hazards in the places where children spend their time.
- Train healthcare providers on the recognition, prevention and management of toxic exposures, and on the use of the paediatric environmental history to investigate specific risks to which children are exposed.
- Incorporate the teaching of chemical safety and health into school curricula.
- Create and enforce legislation to promote the safe use and disposal of chemicals.
- Promote policies to reduce and remedy environmental pollution.
- Avoid the construction of homes, schools and playgrounds near polluted areas and hazardous installations.
- Promote "poison-control" educational campaigns.



Unintentional injuries (accidents)



Unintentional injuries include road traffic injuries, poisonings, falls, burns and drowning. In 2001, an estimated 685,000 children under the age of 15 were killed by such unintentional injuries. Approximately 20% of all deaths from unintentional injuries worldwide occur in children under 15 years old and they are among the ten leading causes of death for this age group. World-wide, the leading causes of death from unintentional injury among children are road traffic injuries (21% of such for this age group) and drowning (19%).

Unintentional injuries among children are a global problem, but in certain regions of the world, children and adolescents are disproportionately affected. The vast majority of such unintentional injuries among children occurs in low- and middle-income countries. Children in the African, South-East Asian and Western Pacific regions account for 80% of all children's deaths from unintentional injuries.



Some examples of effective actions to protect against unintentional injuries and accidents are:

- Develop national policies on injury prevention and advocate for greater resources.
- Improve enforcement of existing laws.
- Institute systematic surveillance for unintentional injuries.
- Educate community members in first aid.
- Coordinate emergency services.
- Install window guards and bed rails in the home.
- Use helmets when riding on motorcycles, scooters and bicycles.
- Use child safety seats and safety belts in motor vehicles.
- Raise or enclose cooking areas.
- Teach children to swim and encourage supervision of children around water.
- Use fire-resistant fabrics.
- Use child-proof caps for containers of pesticides, medicines and kerosene.
- Develop, where possible, public awareness campaigns to teach injury prevention.

Ensuring healthy places



The range of environmental risks confronting children, often at the same time and in the same place, demands a concerted, coordinated approach. The work of tackling these risks must centre on the places where children live, and the approach must also be multisectoral and holistic, with the child at the centre.

Such an intersectoral approach can only be effective if the many “actors” involved – different government departments such as health, housing, energy, water and planning, members of the community such as parents, teachers, health and social workers – work together in a truly integrated multisectoral partnership.

The concept has been applied to cities, islands, villages/communities, schools, and workplaces in pilot projects. It aims to establish more effective working relationships between the health sector and other sectors to solve health problems closer to their source. The approach needs to be scaled up from small projects to reach all children at risk of environmental threats.

Cost-effective and culturally appropriate methods can be used to improve the quality of children’s homes, schools and community environment. At the same time, working in the child’s environments can provide a good opportunity to reach a wide range of people with education and information about improving the environment and protecting their children’s health.

Healthy Homes project, South Africa

This project was initiated in an overcrowded, dilapidated and unsanitary inner-city building that housed several hundred people. Conventional environmental health control measures, incorporating traditional inspection, control and punitive legislative measures, had failed. A different approach was needed. A survey was carried out to assess the residents’ health status, to determine the major problems in the building and assess the relevant skills of residents, including plumbing, electrical work and carpentry.

A democratically –elected tenants committee was formed and, with the support of the local council’s environmental health officers, the committee devised strategies to deal with problems such as waste removal and security.

A variety of stakeholders was involved. For example, the local university provided students from the engineering department to consider aspects of the building’s design.

As a result of the health promotion activities, the residents volunteered to clean up the nearby park and surrounding inner-city blocks on a regular basis. Overall, the project laid the foundation for a new participatory way of dealing with environmental health problems in inner-city buildings.



Health-promoting schools, Viet Nam

A demonstration project to make schools cleaner and safer places took place in 18 primary schools in Ta Tinhand Hai Phong, Viet Nam, during 2002. Teams of teachers from each school and members of the local community (including health workers, parents and specialists in water and sanitation) took a three-day training programme on how to create health-promoting schools. The schools ran a number of activities promoting health. These included increasing health components of lessons, improving water supply and latrines in schools, working with health services to provide eye testing and deworming for students, running competitions for the best posters offering information and education on health issues, planting school community gardens,

improving lighting, providing chairs and food, and conducting community education sessions.

Field visits to the 16 demonstration Health Promoting schools in Viet Nam identified a number of positive outcomes. One hundred per cent of the schools had implemented the classroom lessons on “clean and safe behaviors” and 80% of teachers reported that the students enjoyed and responded well to the interactive teaching methods used. Improvements in the school physical environments were observed including a new sport playing area, parent-constructed gardens, improved tables and chairs, first aid and medical equipment for health rooms, masks and gloves to protect young people when cleaning

around the school, the provision of fresh drinking water in classrooms and non-reflective blackboards. Half the schools had contacted their local health services to seek screening services and closer partnership. This included request-

ing help for de-worming. The results demonstrate that with training and materials schools are both willing and able to take action in a range of ways.

Environmentally Healthy School Initiative (EHSI) in Jordan

The Environmentally Healthy School Initiative in Jordan was launched in 1996 in three pilot schools, in a collaboration between nongovernmental organizations (NGOs) and governmental agencies. The project engaged community leaders, parents, students, teachers, and other school staff to improve the school environment and make schools safer

and healthier places for children to learn, play and grow.

Community support groups were organized to work with the schools. Working tools, education and awareness tools were developed to guide the school teachers and students. Collective efforts of the school children (aged 9-14), their teachers and communities





were directed at improving the health of school personnel, families, and community members, and at working with the community to help them understand how the communities could contribute to health and education.

Improvements to the school environments included improved sanitation and better water supplies. Schools launched water conservation efforts, sanitation and hygiene awareness efforts, tree plantation and cleaning campaigns.

Integrated Solid Waste Management Programme, Ecuador

The city of Loja was characterized by dispersed dumping yards in inhabited areas, which led to outbreaks of infections and contagious diseases. There was no coordination in household waste collection efforts. As part of the “Action Plan for Loja – 21st Century”, Loja Municipality introduced the “Integrated Solid Waste Management Programme” in consultation with members of the public and other stakeholders. The plan focused on supporting the poor and marginalized populations, and environmental conservation, through the use of new technologies.

Following a comprehensive information and educational campaign, community members played a key role in establishing a sanitary landfill. Through a door-to-door campaign, municipal personnel delivered green and black waste bins, informational pamphlets and collection schedules to each household. Some 80% of the city’s households started to separate waste at source. A system of fines and higher fees for non-compliance was introduced to promote separation of household waste at source. Biodegradable waste was used to produce compost in a worm composting plant which was later sold. All the recyclable materials were processed and sold while special arrangements were made for safe disposal of toxic and infectious hospital waste.



The programme covered more than 80% of the Municipality, with a participation rate of 90% of the population. Overall, it resulted in the improvement of the quality of life of Loja residents and changes in their behaviour and attitude towards their environment. The institutional capacity of Loja Municipality was strengthened at the local and national levels as programmes were put in place to share their experience with other municipalities.

Countries have mobilized effective strategies for healthy environments



There is clear evidence that environment-related disease can be controlled even in the world's poorest countries. Worldwide, governments and communities have mobilized effective strategies that are being implemented in various settings. The Healthy Environments for Children Alliance will work with these strategies, reinforcing and building on their efficacy.

For example, millions of lives can be saved with the Integrated Management of Childhood Illness (IMCI) that works on the prevention and treatment of pneumonia, diarrhoea, malaria, malnutrition, measles, and worm infections. IMCI also promotes key family practices that include handwashing and the safe disposal of faeces, and ongoing research about the best ways to reduce indoor air pollution and its possible effect on

children's health. IMCI and infant and young child feeding promote exclusive breastfeeding, the most powerful and effective means of reducing the incidence and severity of childhood diarrhoea.

FRESH (Focusing Resources for Effective School Health) advocates for the provision of safe water and sanitation in schools, health and hygiene education, school-based health and nutrition services, and health-related school policies.

The Framework Convention on Tobacco Control addresses, inter alia, second-hand tobacco smoke through a legally binding international treaty.

The Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes has been signed by 36 European Member



States of the World Health Organization. The aim of the Protocol is to coordinate and strengthen the fight against water-related diseases and all aspects of their causal factors.

Integrated management of pregnancy and childbirth reduces maternal and newborn deaths.

The Global Strategy on Infant and Young Child Feeding promotes exclusive breastfeeding and adequate complementary feeding practices that can protect from environmental threats.



Why the Healthy Environments for Children Alliance



Many countries, UN agencies and NGOs have expressed a strong need to establish a broad-based alliance that draws on the unique and complementary strengths of many different parties. The Healthy Environments for Children Alliance envisions a movement involving various government sectors (at local and national levels), civil society groups and NGOs, the private sector and the UN family, as well as foundations, research and academic groups, and the children and their families themselves.

By working together, members of the alliance can more effectively address the needs that exist in many communities and countries to develop and implement effective programmes and policies. Moreover, by working together they will be able to accomplish the tasks and objectives that would otherwise be unattainable or delayed.

The Alliance will draw upon new and compelling evidence of the effectiveness of various interventions to tackle the different dimensions of children's environmental health. That knowledge will be linked to national and community action, and used to mobilize additional resources for implementation. A strong and multi-institutional alliance can advocate globally for increased resources to promote healthy environments for children, as well as for the use of effective tools. The alliance can provide a clearinghouse for information and research, which will be a basis for community and national action.

The sharing of information, expertise and efforts will:

- Increase the effectiveness of interventions.
- Expand the reach of limited resources.
- Stimulate governments and others to act in a collective, coherent and synergistic way.

In each area of environmental risks described above, many players are already active. Many cost-effective solutions already exist. It is crucial to build on past and ongoing work, and to highlight the potential value that will be added as alliance members are drawn into scaled-up, and more globally as well as locally oriented, actions. This needs top-level commitment for a new and innovative approach to children's environmental health, which draws on the expertise and resources of a wide range of stakeholders.

The alliance's success, however, will not be limited to its ability to address each of the risks separately. Through acting together on multiple risks, the various actors will find cross-cutting, integrated solutions for addressing children's health issues and environmental risk factors in a more effective, integrated and synergistic way.

Global direction, advocacy and resource mobilization are essential to make the alliance work effectively. National movements are also vital for creating and ensuring safe and healthy environments for children, and promoting hygienic behaviours.

The Alliance will support national and local movements that are visible and vibrant, and catalyse the efforts of different stakeholders, coordinate actions, and strengthen networks. Such national movements can help identify the main environmental risks and prepare strategies to raise awareness and spur action within communities, and to promote education and research on environmental health issues. They will ensure that global ideas are translated into local reality.



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