



Stop the injustice of environmental pollution

Every child has a right
to a healthy environment

 terre des hommes
Help for Children in Need

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Imagine that you could buy, in thousands of shops across the country, canisters containing toxic gas. Imagine that some people walked the streets, squirting this gas into the face of every child they passed. Imagine that it became a craze, so that a child couldn't walk a metre without receiving a faceful. Imagine that, while a single dose was unlikely to cause serious harm, repeated doses damaged their hearts, lungs and brains, affecting their health, their intelligence and their life chances. It would be treated as a national emergency. Sales of the canisters would immediately be banned. The police would be mobilised. If existing laws against poisoning children were deemed insufficient, new legislation would be rushed through parliament. It's not hard to picture this response, is it?

Yet the mass poisoning is happening. And nothing changes.

George Monbiot

Introduction

Children are intimately connected with their environment. It is the air, water and food they take deep into their sensitive bodies for growth and development. The state of a child's environment determines how their genes are expressed, how their hormones function and, in essence, the quality of the life they lead as both children and adults. A child's environment contributes to both their nature and their nurture.

Every child has the right to a healthy environment. Whether from a position of interpreting human rights treaties, moral rights or ethical values, the child's right to a healthy environment is undeniable. The human rights to life with dignity, the highest attainable standard of physical and mental health, bodily integrity, maximum survival and development, to education and play, as well as to nutritious food, safe water, clean air and adequate housing all depend on the realization of a healthy environment for children. States have an obligation to give primary consideration to the best interests of the child in all actions concerning children, including those that give rise to exposures to toxic and otherwise hazardous substances.

And yet, children suffer from a perverse and largely invisible form of discrimination. Children are the most vulnerable to toxic exposures. They are exposed at higher levels than adults, their developing bodies are more severely affected by exposure and they are unable to protect themselves or speak out during the most critical periods of development.

Children in all countries are born pre-polluted with dozens, perhaps hundreds, of toxic chemicals in their new bodies, denying their full developmental potential. Paediatricians describe the situation of childhood exposure to toxic chemicals, pollution and waste as resulting in a "silent pandemic" of disease, disability and premature death. Children living in poverty or in marginalized communities and children that are malnourished are subject to exacerbated risks and discriminatory impacts from heightened exposures and sensitivities.

Today, hundreds of millions of children are denied a healthy environment and the future that it enables. They are born on the wrong side of a toxic divide, where less privileged children are deprived of the full realization of a multitude of human rights before they have opened their eyes or said their first word. The failure to protect children from toxic exposures is widespread, from the richest to the poorest of countries. While some progress has been made, the level of preventative and precautionary measures taken by most States and businesses has been far less than what the science, the law and the common values of society tell us is necessary. Laws and policies remain inconsistent with the human rights obligations of States, continuing to permit the poisoning of children and the exploitation of their bodies and minds.

Grave, irreversible and trans-generational toxic impacts on children's bodies and minds erode the health, dignity and well-being of millions of children on a daily basis. Contrary to what is needed to protect children, examples abound of unjustified regression on necessary reductions of exposure in nearly every State. Governments have been unwilling to address the inertia of short-sighted policies that promote corporate rights over child rights. Instead, these policies have been able to continue capitalizing on the invisibility of exposure and latency of disease to avoid prosecution for resulting harms. Policy-makers underestimate, and in many cases ignore, the massive costs of childhood exposure on individuals and society. Those with vested interests continue to insist that the exposure levels are low and the risks negligible, knowing full well that for more substances than we have identified to date there

is no safe level of childhood exposure and prevention is the only solution.

Impunity for exposing children to toxic substances is rampant. States and businesses continue to permit children to be exposed to unquestionably hazardous substances with little to no legitimate justification. Whether by exploiting the invisibility of the exposures that infringe child rights or the latency of diseases that later develop, or through simple corruption and unethical conduct, those who have the power and the duty to prevent children from being exposed enjoy what has become wholesale immunity, with little to no repercussion for their failures to act. Perpetrators remain unaccountable, as most children who develop diseases and disabilities do not know they are victims. Fewer still have access to an effective remedy.

There is an urgent need to act today to better protect future generations. The dignity of future generations depends on environmental stewardship today, and society has this duty to future generations. The rights of the child must be at the centre of a rights-based approach to protect the environment from pollution, as children represent both our present and our future. Under such an approach, prevention of exposure is in the best interests of the child and must be prioritised to secure the child's substantive rights to safe food, water, air and housing, among other rights that are en-

compassed within their right to a healthy environment. The rights to be informed and heard are of little use to young children in the context of toxics, as they are physically unable to exercise such rights when they are most vulnerable to environmental exposures and their resulting impacts. Prevention of childhood exposure to pollution and toxic chemicals must be the default, not the exception.

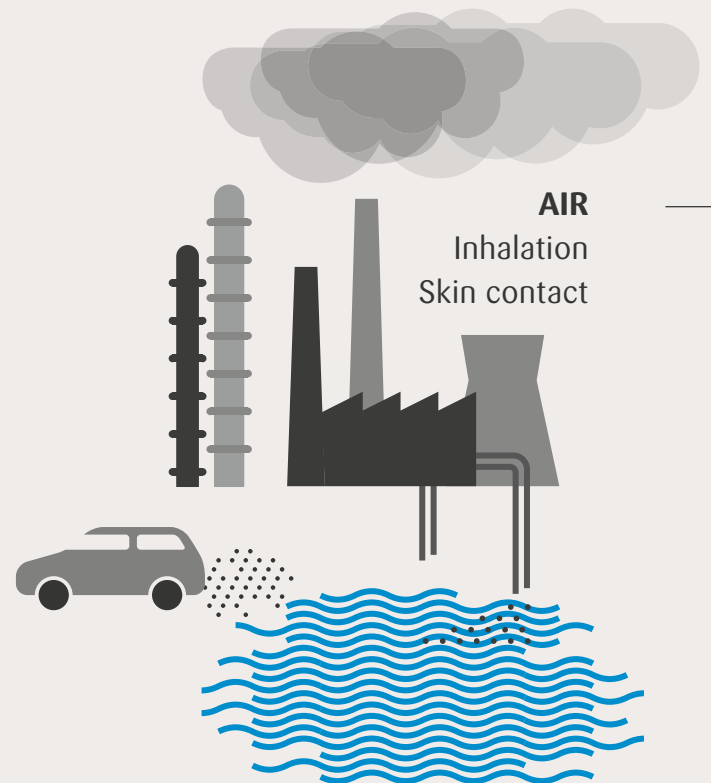
Solutions to this human rights crisis are available. Cleaner and safer approaches are either readily available or can be developed to reduce childhood exposure to pollution and toxic chemicals. Solutions ranging from safe chemicals to agroecology to the circular economy are all being advanced by innovative enterprises working to reduce toxic exposure and avoid a future in which production and consumption continue to disregard the usage, production, and disposal of hazardous substances.

This report is an urgent call for governments and other relevant actors, including the business sector and civil society, to tackle pollution and its effects on the lives of children everywhere as a matter of priority. The human-made poisoning of children receives far too little attention as compared to other environmental health hazards. Whether or not people intend to expose children to toxics does not make a difference to their health and well-being.

Terre des Hommes believes that only a strong normative framework, grounded in shared principles, values and rights, can catalyse the systemic interventions that are necessary to ensure children grow up free from pollution. States must explicitly recognize and realize the child's right to a healthy environment. This report contains eight key demands, primarily to States, to respect, protect and fulfil the human rights of every child by addressing environmental pollution.

FIGURE 1:**Childhood exposure to toxic substances**

Children are exposed to toxic substances through the air they breathe, the water they drink and the food they eat. These substances are released from factories, farms, mines and other industrial facilities, cars and other vehicles, fossil fuel combustion, waste incineration and the burning of forests, among the myriad means by which economic actors toxify the environment. Toys, furniture, building materials and other consumer products are also sources of exposure to toxic substances. Places where children should be safe, for example in their homes, schools and playgrounds, are often places in which children are exposed to toxic substances. Because children breathe more air, eat more food and consume more water in proportion to their body weight than adults, they are exposed at higher levels – all the while being more sensitive to the adverse health impacts of such exposure. Abuses of children's rights are linked to the present, but also to the legacy of environmental pollution from past activities and potential future harm. Pollution can cause effects that are experienced locally, nationally, regionally and even globally, and it has an adverse impact on children's health and development, along with their economic, social and cultural well-being, from conception through childhood and into adulthood.



WATER
Ingestion
Skin contact

PRODUCTS
Inhalation
Ingestion
Skin contact



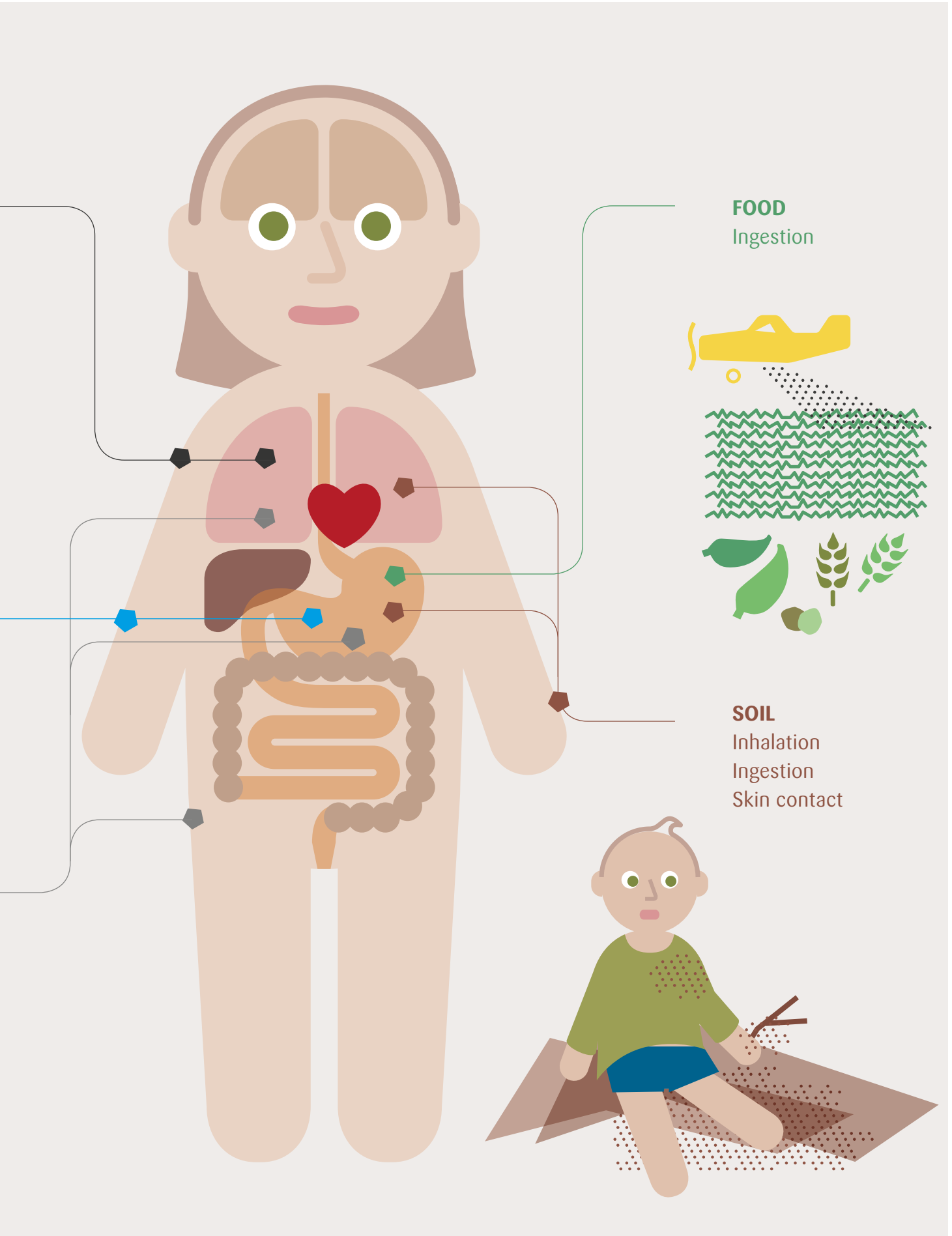
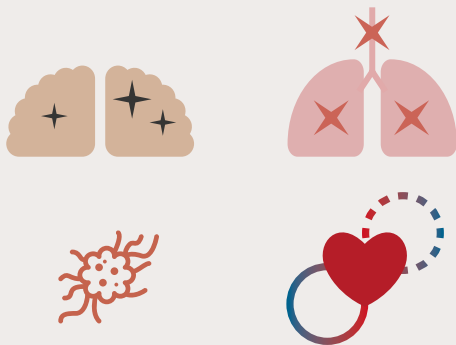


FIGURE 2:**Specific toxic threats to children's health**

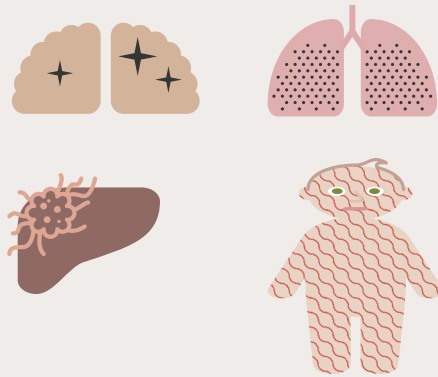
The following hazardous substances have been noted to have more severe effects with regards to children's health as compared to adults. Infants can be exposed through breast milk or formula made with water that contains toxic substances. Older children may be exposed to toxic substances through food, water, household dust, ambient air and consumer products.

Pb**Hg****As**

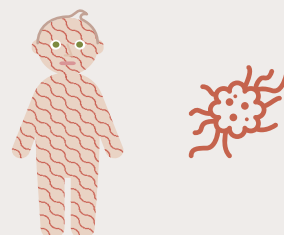
Heavy metals – Effects of childhood exposure to lead, mercury, arsenic and other toxic elements include learning disabilities, behavioural disorders, respiratory problems, cancer and cardiovascular diseases.



Phthalates – Exposure to this class of chemicals in plastics and personal care products are linked to liver and kidney cancers, increases in asthma and allergies and various harms to reproductive systems. Some human studies suggest that in utero phthalate exposure could lead to abnormal genital and behavioural developmental, as well as obesity.



Forever chemicals (i.e. PFASs) – Thousands of individual substances in this toxic class have been used in carpets, clothing, non-stick pans, paints, polishes, waxes, cleaning products and food packaging, as well as fire-fighting foam used by the military. Studies have shown a wide range of possible health impacts that may be caused by exposure, including developmental effects in infants, interference with hormones and increased risk of cancer.

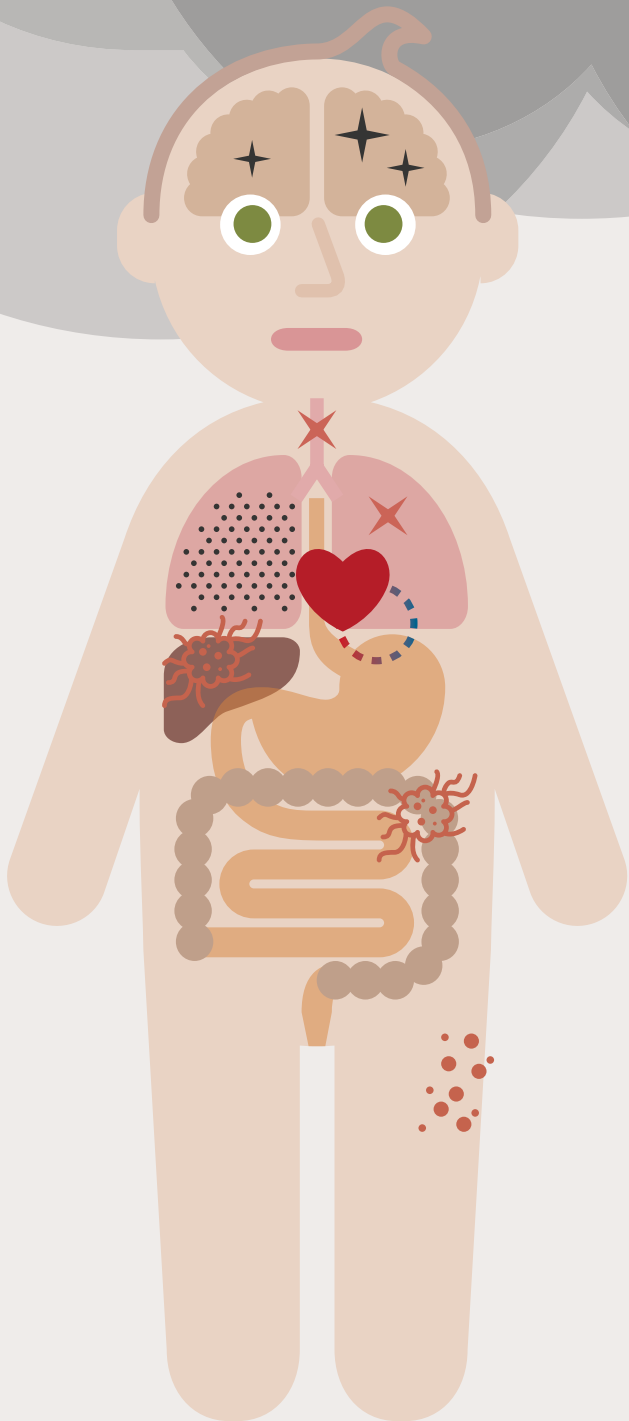
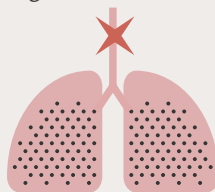




Pesticides – Referring generally to herbicides, biocides, insecticides and other hazardous substances designed to kill living organisms, pesticide exposure's health impacts on children are well established and include cancer, developmental harms, reduced intelligence, among others.



Air pollution – The respiratory systems of children are especially sensitive to exposure to various air pollutants, causing asthma, acute respiratory infections, allergies, impaired lung function and neurobehavioral disorders. Studies have shown childhood exposure to traffic-related air pollutants can affect virtually every organ



RECOGNIZE AND REALIZE
THE CHILD'S RIGHT TO A
HEALTHY ENVIRONMENT



The vast majority of States have already recognized the human right to a healthy environment, including through national constitutions, court decisions and international treaties. As human rights are universal, children and future parents have this human right. In addition, some countries have passed national children laws that include a right to a healthy environment.

Despite increasing recognition nationally and internationally since the early 1970s, a healthy environment has been treated as a privilege more than a universal human right, with children denied this right more than any other vulnerable group. For example, millions of children suffer from lead pollution, with hundreds of thousands dying prematurely each year as a result. Air pollution is another violation of the right to a healthy environment, and it causes one in ten deaths in children under five years of age. The World Health Organization estimates that more than a quarter of the 5.9 million deaths of young children could be prevent-

ed through interventions known to produce healthier environments.¹

There is an urgent need for States to clearly and explicitly recognize (1) that every child has the right to a health environment, in particular to live, study and play in a non-toxic environment, and (2) that it is their duty to respect, protect and fulfil this right by preventing exposure to hazardous substances and safeguarding the quality of the environment for present and future generations.

This right is universal. Internationally recognized human rights are often implicit, derived from explicit rights contained in international agreements. In this

¹ Don't pollute my Future – The Impact of the Environment on Children's Health and Inheriting a sustainable world: Atlas on children's health and the environment, World Health Organization 2017.

BOX 1: What is a healthy environment?

A healthy environment creates the conditions for healthy people. A healthy environment does not result in exposures to hazardous substances – through the air we breathe, the water we drink, the food we eat and the places we live, play and work – that adversely affect our health and well-being. A healthy environment is, in essence, a non-toxic environment.

The *right* to a healthy environment is, substantively, a right to a non-toxic environment, where children are born and live free from hazardous exposures, leading to healthier lives and populations overall. The right to a healthy environment encompasses many interrelated human rights recognized at the global level, such as the rights to life, the highest attainable standard of health, physical integrity, human dignity and an adequate standard of living. Adjectives such as “safe,” “clean” and “adequate” that often accompany related rights, such as to water, food and housing, speak directly to the right to a non-toxic environment.

With each passing day, what constitutes an unhealthy environment seems to become more precise and nuanced. Levels of exposure considered to be acceptable as recently as a few decades ago are now considered to be highly hazardous. While health-based standards are useful in some respects, developing such environmental standards for all substances that are potentially harmful to children is simply not feasible given the number of substances in use and the barriers to effective and timely risk assessments.

It is thus vital that the right to a healthy environment acknowledges the unavoidable uncertainty about the hazards to which we are exposed and how the cumulative impacts of substances in our environments relate to our understanding of “healthy.” It follows that the right to a healthy environment does not place an unreasonable burden of proof on victims to access justice. It is vital that States and businesses exercise their duties and responsibilities relating to the realisation of a healthy environment with a strong presumption that prevention of exposure is in the best interests of the child and the population overall.

case, the UN Convention on the Rights of the Child (UN CRC) implicitly enshrines the child's right to a healthy environment in several different ways.

“STATES PARTIES RECOGNIZE THE RIGHT OF THE CHILD TO THE ENJOYMENT OF THE HIGHEST ATTAINABLE STANDARD OF HEALTH AND ... SHALL PURSUE FULL IMPLEMENTATION OF THIS RIGHT AND, IN PARTICULAR, SHALL TAKE APPROPRIATE MEASURES ... TO COMBAT DISEASE AND MALNUTRITION THROUGH THE PROVISION OF ADEQUATE NUTRITIOUS FOODS AND CLEAN DRINKING-WATER, TAKING INTO CONSIDERATION THE DANGERS AND RISKS OF ENVIRONMENTAL POLLUTION”

– UN CRC, ARTICLE 24

First, it explicitly links the right of the child to the highest attainable standard of health with “environmental pollution.” While the dangers and risks are in relation to food and water, there is no indication that other environmental health hazards are excluded. To this end, the article begins with the obligation of States to pursue “full implementation” of the right to the highest attainable standard of health.

“STATES PARTIES RECOGNIZE THAT EVERY CHILD HAS THE INHERENT RIGHT TO LIFE.”

– UN CRC, ARTICLE 6

“STATES PARTIES SHALL ENSURE TO THE MAXIMUM EXTENT POSSIBLE THE SURVIVAL AND DEVELOPMENT OF THE CHILD.”

– UN CRC, ARTICLE 6

Second, every child has the right to enjoy a life with dignity, requiring States to ensure to the maximum extent possible the survival and development of the child. An unhealthy environment compromises the survival and development of the child, both mentally and physically. Implementation of the obligation to respect and ensure the right to life, and in particular a life with dignity, depends on active measures taken by States to preserve the environment and protect it against pollution.²

“STATES PARTIES RECOGNIZE THE RIGHT OF EVERY CHILD TO A STANDARD OF LIVING ADEQUATE FOR THE CHILD’S PHYSICAL, MENTAL, SPIRITUAL, MORAL AND SOCIAL DEVELOPMENT.” – UN CRC, ARTICLE 27

Third, the Convention on the Rights of the Child establishes a strong link between an adequate standard of living and the right of every child to develop to their full potential. The right to an adequate standard of living includes access to healthy food and housing, clean water and sanitation. These are indispensable elements of a safe and healthy environment. Toxic substances interfere with children's right to an adequate standard of living today and prevent them from enjoying their right in the future by hampering their normal development. For example, the lifetime effects of air pollution can include impaired cognitive development, low school performance, poor long-term health, decreased labour productivity, low income, high health costs and overall social and economic deprivation with implications for “intergenerational cycles of inequity.”³

Without ensuring children are protected from a toxic environment, no State can meet its obligations to respect and protect children's right to life with dignity, health, development, an adequate standard of living, as well as a host of other rights under the UN CRC, including to bodily integrity, freedom from cruel, inhuman and degrading treatment, play, protection from exploitation and education.

A one-size-fits-all model of environmental protection does not necessarily take into account the nuanced dangers and risks of a toxic environment on children and therefore may not protect the child's right to a healthy environment. From toxic chemicals such as lead and plasticizers to air pollution, the observation of paediatricians that “children are not little adults,” rings true today, decades later. Children cannot be adequately protected by environmental laws and policies that are designed to protect the “average” person. This catastrophic generalization will likely lead to increasing proportions of future generations that are condemned to sickness, poverty and malcontent.

Every State should recognize and comply with its legal obligation to respect, protect and fulfil the human right of every child in their territory or jurisdiction to a healthy environment. Morally and legally, every Government has the duty to protect children from exposure to toxic pollution and realize their right to a

2 UN Human Rights Committee, General Comment No. 36

3 Clear the Air for Children, UNICEF, 2016

healthy environment more broadly. As every State but one is a party to the UN CRC, and most countries of the world have recognized the right to a healthy environment in national or regional laws, it would be

remarkable for any country to claim it does not have such a duty. And yet, few if any States, have recognized this obligation to protect children from toxic exposure in national laws or policies.

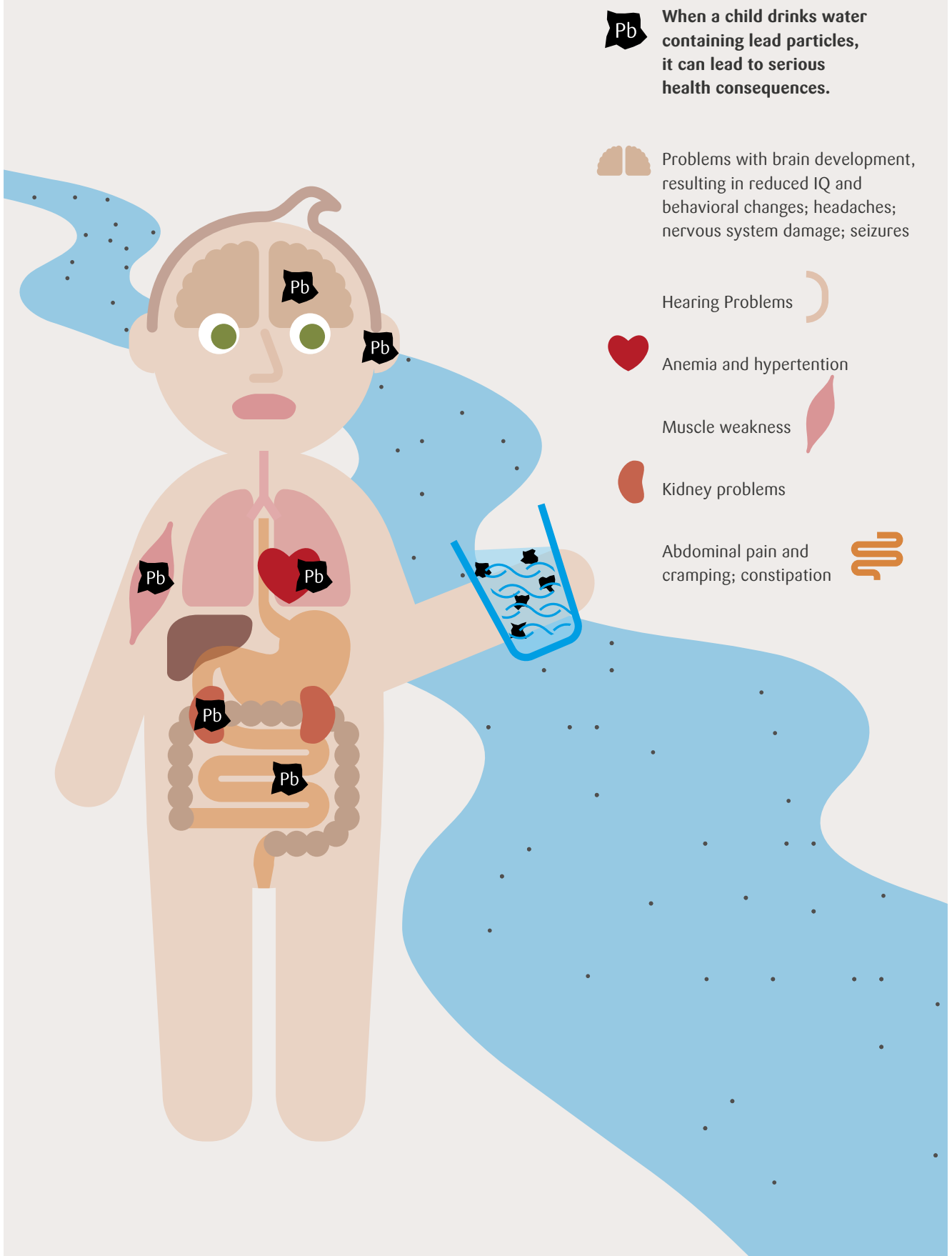
Despite widespread recognition at the national and regional level, the United Nations has never endorsed the human right to a healthy environment. As the environmental crisis continues to violate and threaten the rights of billions on our planet, Terre des Hommes has launched the MY PLANET – MY RIGHTS campaign appealing to States to ensure children’s rights through the recognition of the human right to a healthy environment and development of an Optional Protocol to the United Nations Convention on the Rights of the Child on a child’s right to a healthy environment.

Sign our petition at: www.my-planet-my-rights.org



**MY PLANET
MY RIGHTS**

FIGURE 3: How Lead Affects Childrens' Bodies



Make the child's best interests the primary consideration

“IN ALL ACTIONS CONCERNING CHILDREN, WHETHER UNDERTAKEN BY PUBLIC OR PRIVATE SOCIAL WELFARE INSTITUTIONS, COURTS OF LAW, ADMINISTRATIVE AUTHORITIES OR LEGISLATIVE BODIES, THE BEST INTERESTS OF THE CHILD SHALL BE A PRIMARY CONSIDERATION.”

– UN CRC, ARTICLE 3(1)

Despite being a guiding principle of the Convention on the Rights of the Child, the best interests of the child are not a primary consideration in the design and implementation of various laws and policies that relate to toxic exposures by children. In other words, while environmental laws and policies help to protect the environment generally, and thereby our children, many are not designed to have the child's best interests as a primary consideration. Industrial competitiveness, risk management options and cost-benefit considerations are prioritized over the best interests of the child. Many of these measures, by failing to place the child's best interest at the centre of their objectives, are legally poisoning generation after generation.

EACH YEAR

1.7

MILLION DEATHS OF CHILDREN UNDER 5 ARE LINKED TO THE ENVIRONMENT

Three illustrative examples:

1. While Europe is widely regarded as having some of the world's most ambitious environmental laws, certain efforts illustrate shortcomings in considering the child's best interests within them. In the United Kingdom, efforts to reduce air pollution were repeatedly struck down by the courts for not reducing air pollution as fast as required by European law. More precisely, the Government did not follow its own environmental agency's advice on how to best reduce toxic air pollution levels. The Government's primary consideration was not to serve the best interests of the child but instead focused on the unfairness to consumers who purchased diesel vehicles that were promoted by the government and have contributed to the air pollution crisis that has plagued the UK for several years. As a result, road pollution exposed hundreds of thousands of children to dirty air at schools and nurseries across the country.⁴

2. Further, the EU pesticide law permitted the use of chlorpyrifos for many years, despite longstanding and clear evidence of neurodevelopmental impacts (e.g. reduced intelligence) in children who are exposed during critical periods of development. Chlorpyrifos is used on a wide variety of crops including apples, oranges, strawberries, corn, wheat, citrus and other foods that families and children eat daily. Regulators have generally been slow to react to the clear evidence of neurological impacts even while being unable to set a "safe" level of childhood exposure in air, food or water.⁵ Chemical manufacturers continue to insist their product is safe for use. The use of chlorpyrifos, and the failure to act on years of evidence, illustrates the shortcoming of one of the world's most progressive pesticide laws to truly take the best interests of the

⁴ <https://unearthed.greenpeace.org/2017/04/04/air-pollution-nurseries/>

⁵ The pesticide was banned by the EU in December of 2019. The European Food Safety Authority had concluded that "there is no safe exposure level." European Food Safety Authority, "Chlorpyrifos: assessment identifies human health effects", 2 August 2019.

1.8

**BILLION CHILDREN BREATHE
TOXIC AIR EVERY DAY**

child into account, and it demonstrates the failure of businesses to uphold their responsibility to respect the rights of the child.

3. Following the nuclear disaster in Fukushima, Japan increased its “acceptable” level of radiation for residents in Fukushima twenty times, from 1 mSv/year to 20 mSv/year. UN experts have repeatedly raised concerns regarding the human rights impacts of this decision, including its inconsistency with Japan’s obligation to take the best interests of the child into account.⁶ The health and developmental impacts of heightened exposure to such radiation for children who may be raised in Fukushima and other areas impacted by the radiation is largely unknown. Scientific uncertainty and the difficulty of establishing causation has been used by the government to justify its actions.⁷ However, the UN Human Rights Council recommended that the Government of Japan return acceptable levels of exposure to those before Fukushima, i.e. 1 mSv/yr.⁸

**STATES DO NOT PRIORITIZE
THE CHILD’S BEST INTERESTS
IN THEIR ENVIRONMENTAL
POLICIES**

While these and a multitude of other laws, policies and decisions give significant consideration to certain interests, they do not make the best interests of the child a primary consideration. The best interests principle must guide the interpretation and implementation of the child’s right to a healthy environment – including future generations of children who will inherit the toxic legacy of the past and present. States must integrate and apply this guiding principle “in all actions,” including the design and implementation of laws, as well as administrative and judicial proceedings, bearing in mind children’s unique vulnerabilities and sensitivities to toxic chemicals in products and pollution. This includes actions aimed at children (e.g. related to health or education) as well as actions that include children and other groups of the population (e.g. related to transport or the environment).⁹

815

**MILLION CHILDREN – ONE
OUT OF THREE – HAVE HIGH
BLOOD LEAD LEVELS**

Importantly, States should be in a position to explain and be held accountable for how they respect the right of present and future children to have their best interests made a primary consideration in environmental decision-making, including how this right has been weighed against other considerations.¹⁰ States must assess the degree to which proposed and ongoing activities cause or contribute to childhood exposures to toxic substances and thereby infringe upon the full realization of the right of children to consider their best interests.

6 See e.g. www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=23772&LangID=E

7 <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gld=34391> page 2

8 *Ibid.*, p.4

9 Committee on the Rights of the Child, General Comment No. 14 (2013) on the right of the child to have his or her best interests taken as a primary consideration, para. 19.

10 *Ibid.*, para. 6c

CASE STUDY 1: Heavy metal contamination

In 2018, the Government of Peru declared a state of emergency in twelve districts of Cerro de Pasco due to widespread heavy metal contamination and the prevalence of children exposed to highly toxic substances. High levels of lead, arsenic, mercury, aluminium and manganese were detected in the environment. Twenty percent of the tested children in the area had lead in their blood above levels the health authority considers to be safe (10 µg/dl). The children in the community are enduring various adverse health impacts from this exposure.

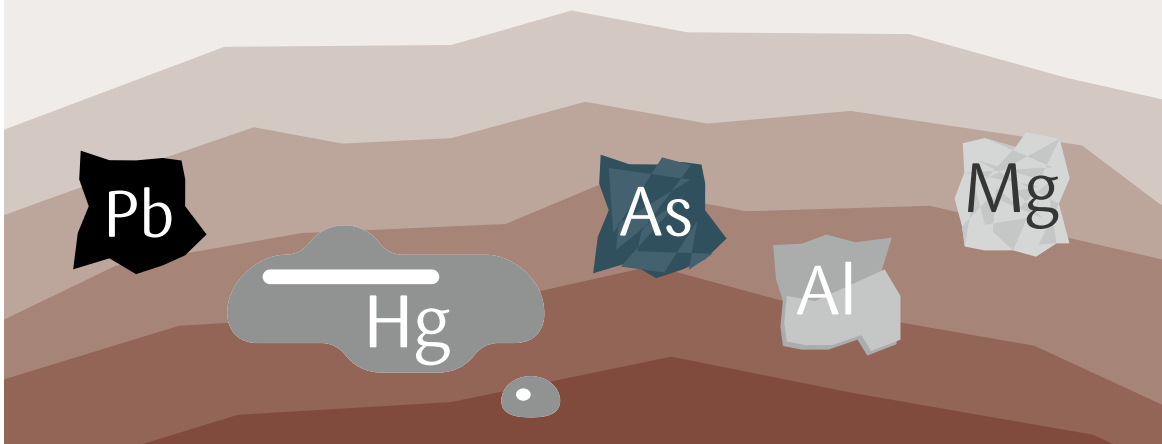
Cerro de Pasco literally sits on the precipice of a massive open-pit mine that has swallowed the community and allegedly poisoned residents with heavy metals and other pollutants for decades. Although the main mine was owned for years by Peruvian companies, it is now in the hands of Swiss-based Glencore. The companies and various government actors have used scientific uncertainty of the extent to which contamination comes from the mines to delay preventative measures.

But the heavy metal contamination extends far beyond Cerro de Pasco. In Espinar, children are exposed to various heavy metals and other toxic substances, resulting in health impacts. Glencore's mining operations in the area were implicated in the contamination by a governmental investigation, leading to widespread protests, excessive force by security forces and allegations of torture. In the Peruvian Amazon, the Kukama, Achuar and other

Indigenous children have also been exposed to various heavy metals in their primary sources of food and water following oil contamination.¹ And in La Oroya, children have been poisoned by the operations of a lead smelter for decades, resulting in protective measures issued by the Inter-American Commission for Human Rights. Yet, the government proposed to increase permissible exposure levels to lead and other pollutants in order to legitimize and re-start operations at the facility.

While extractive industries are by some measures Peru's leading industry, the dark, toxic legacy of these activities call into question the manner in which the best interests of the child are being implemented in such operations. As in much of the world, corruption and "corporate capture" has been a major problem in the politics of Peru, particularly in the case of polluting industries, reinforcing the importance of environmental rights. Toxic exposures resulting from decisions made far away from the communities of Cerro de Pasco, La Oroya, Espinar and Cuninico are abusing and violating the right of children to life, health and development in these communities. There is an urgent need to prevent further exposure and ensure adequate health care to those exposed, including access to treatments and medicines.

¹ www.ohchr.org/Documents/HRBodies/CRC/Discussions/2016/EQUIDAD_2.pdf.



Unlock justice and an effective remedy to realize a healthy environment

FOR RIGHTS TO HAVE MEANING, EFFECTIVE REMEDIES MUST BE AVAILABLE TO REDRESS VIOLATIONS. (...) CHILDREN'S SPECIAL AND DEPENDENT STATUS CREATES REAL DIFFICULTIES FOR THEM IN PURSUING REMEDIES FOR BREACHES OF THEIR RIGHTS. SO STATES NEED TO GIVE PARTICULAR ATTENTION TO ENSURING THAT THERE ARE EFFECTIVE, CHILD-SENSITIVE PROCEDURES AVAILABLE TO CHILDREN AND THEIR REPRESENTATIVES (...). WHERE RIGHTS ARE FOUND TO HAVE BEEN BREACHED, THERE SHOULD BE APPROPRIATE REPARATION.

– UN CRC, GENERAL COMMENT, NO. 5

Every child has the right to an effective remedy for violations of their rights. Yet, for communities who have been poisoned by pollution, more often than not they are forced to endure exposure to toxic substances indefinitely, while generation after generation is born into a toxic environment. Or they are forced to move without the ability to sell their homes for fair value, without their sources of their livelihood or without the community fabric that binds their culture. This is contrary to their human rights, including the rights of children living in these communities.

It is no secret that often the most vulnerable children in society face the greatest obstacles to gain access to an effective remedy, despite also facing the greatest risk of exposure to toxic substances. Poverty and lack of resources are obstacles to legal as well as political support. Racial, cultural, ethnic, genetic and other factors are often used as arguments to justify the alleged impacts of toxics on communities. For example, victims in low-income communities in the southern United States are often blamed for causing their own health ailments due to poor nutrition and hygiene, adding insult to injury for communities that have been trapped in a plague of industrial pollution for decades without recourse.

The right to an effective remedy requires, among other measures, the clean-up of contaminated sites. Timely reparation to prevent recurrence is essential. However, around the world, case after case has illustrated the

challenge of ensuring an effective remedy for children affected by the pollution of business activities. Sites from Bhopal, India, to La Oroya, Peru, to Kabwe, Zambia, remain contaminated, constantly harming children born in the toxic soup of contamination. The failure to remediate contamination is just one part of the general failure to meet human rights standards for an effective remedy.

Access to health care is a fundamental element of an effective remedy. Children who are born and raised in highly toxic environments far too often do not have access to health care, exacerbating the situation they are forced to endure.

Effective remedy for violations of human rights law also include the right of victims to have access to relevant information concerning the violations. Around the world, most victims of childhood exposure to hazardous substances, including older children and adults who develop latent diseases and disabilities, do not know how and to what extent their rights have been abused.

To be truly effective, remedy requires the cessation of actions or inactions that give rise to impacts. However, bad actors – whether reckless business practices, toxic chemicals, or inherently dangerous production processes – continue to remain in place, resulting in a pattern of recurrence. Many of the case studies provided in this report illustrate this point. To provide an effective remedy, there must be a transition away from toxic products and production methods to safer, healthier methods in order to prevent childhood exposure. Policymakers' over emphasis on risk management without adequate information on which to calculate the risks (and the inadequate emphasis on prevention and precaution) has repeatedly failed to protect the human rights of children.

Children have equal rights to access to justice and accountability.¹¹ To be effective, remedies should be appropriately adapted for children, taking into account their special needs, risks and evolving development

¹¹ See General Assembly resolution 60/147, and Convention on the Rights of the Child, art. 39.

and capacities.¹² An effective remedy should include the provision of health care to children, and the dissemination of information to ensure that parents and

¹² Committee on the Rights of the Child, General Comment No. 16, para. 31.

children know how to prevent recurrence. The harm of exposure is not only the exposure itself, but also when diseases or disabilities may manifest years or decades later. The child's right to a remedy starts from the time of exposure and continues throughout the duration of their life.

CASE STUDY 2: Prevention is the best remedy

For over 100 years, generations of children have suffered from extreme lead poisoning in Kabwe, Zambia, without any semblance of an effective remedy. From 1904–1994, Kabwe was home to a lead mine and smelter that spewed toxic lead dust over the surrounding soil. Today, 76,000 people – over one third of Kabwe residents – live in lead-contaminated communities. Researchers estimate that over 95 percent of children in the areas surrounding the lead mine have elevated blood lead levels and that about half of them have blood lead levels of more than 45 µg/dl and require medical intervention. With a large percentage of the population living in poverty, the inhabitants of Kabwe are at even greater risk of adverse health impacts from lead pollution.

An effective remedy has been elusive for the residents of Kabwe. A quarter century after the mine's closure, the surrounding environment still has widespread contamination from the mine and smelter, including a large toxic waste heap nicknamed "Black Mountain." Contamination has spread beyond the boundaries of the mine site through wind, water and informal mining activities. Contamination levels are far in excess of international standards, which state there is in fact no safe level of lead exposure for children.

An eight-year environmental project funded by the World Bank to reduce exposure was unsuccessful. Inexplicably, the project did not remediate in any meaningful way the underlying lead contamination, and it ended in 2011. A new World Bank project was launched in 2016, but remediation of residential areas still has not begun, and remediation of the old mine and former waste piles is not envisaged. As a result, the community continues to be exposed, day after day.

While the absence of remediation is a fundamental concern, the lack of access to adequate healthcare is also troubling. Medical treatment for lead poisoning is not available. Until late 2019, medical facilities had no testing equipment, though test kits are now provided under the 2016 World Bank project. Blood lead levels were still not being tested as of 2019, including those of children and women of reproductive age, and records of illnesses, disabilities or deaths that may be due to lead exposure are not being kept.

The British companies operating the mine for nearly 70 years of its 90-year history have not been held properly to account. No compensation has been provided to the victims. And there are concerns about plans by a South African company for secondary mining of the waste, which would result in greater contamination.



Children playing nearby a mine dump in Kabwe

Prevent exposure: No child should be born pre-polluted

It is unacceptable that children today are born pre-polluted. Children are born exposed to hundreds of different toxic substances, from air pollutants to water contaminants, most of which have no legitimate public interest justification. Society has a legal and moral obligation to protect children, including from toxic exposures.

The rights and best interests of the child are best served through the prevention of environmental exposure. For most substances, the risks of childhood exposure – even at very low-levels – are simply unknown. For an increasing number of other substances, there is no “safe” level of childhood exposure. The quintessential example is lead, in which levels of concern for childhood exposure have precipitously fallen over the last several decades, to the point that WHO now says it is impossible to determine a “safe” level of exposure for children. Yet, lead pollution remains a global health crisis in countries rich and poor.

The myth perpetrated by polluting industries that there are “safe” levels of exposure for children is misleading. For tens of thousands of chemical substances, the health impacts of exposure on sensitive, developing children has not been determined. There is, therefore, no scientific basis for the chemical industry and other polluting industries to make such sweeping and general assertions that “low” levels of exposure are not of concern. Such arguments flout even the weakest of ethical standards. What is known about early stage childhood exposure as a predeterminant of healthy adolescent and adult lives is one important reason that States must take a preventive approach. However, it is not the only reason.

Various freedoms, including autonomy of the individual and control of what happens to one’s own body, is fundamental to a life with dignity. Every child has the right to bodily integrity, which implies that children and their parents should be able to decide what substances

BOX 2: Children have (toxic) chemicals in their bodies

The German Environment Agency (UBA) regularly monitors the environmental health situation of 3 to 17-year olds in close cooperation with the Robert Koch Institute (RKI). Their most recent study (German Environmental Survey for Children and Adolescents, GerES 2014–2017) shows that up to 100 % of urine samples of around 2,300 children tested contain ingredients of plastics. Traces from 11 out of 15 chemicals used in plastics examined were found in 96–100 % of the samples. The most affected groups of children are also the most sensitive and vulnerable ones: young children and children from low-income families. For some of the chemicals investigated in GerES there are no safe exposure levels. Approximately 20 % of the blood samples collected in the study exceed health-based criteria for PFOA, a chemical used amongst others in outdoor

clothes and frying pans. PFOA was long considered to be safe but will now be banned in the EU from 2020 onwards due to potential health risks. The cumulative impacts of many of those materials examined in the study, as well as their pathways into children’s bodies, are not known very well. With global chemical production estimated to rise further in the future, more and more compounds could end up in human bodies. The results of the monitoring also provide reason for hope, however. GerES shows that lead levels in blood of children tested have gone down over time after the heavy metal was banned for certain uses.

FIGURE 4: No “safe” levels of exposure for certain substances

Example: Blood lead Concentrations Considered Harmful by the Centers for Disease Control and Prevention (CDC)

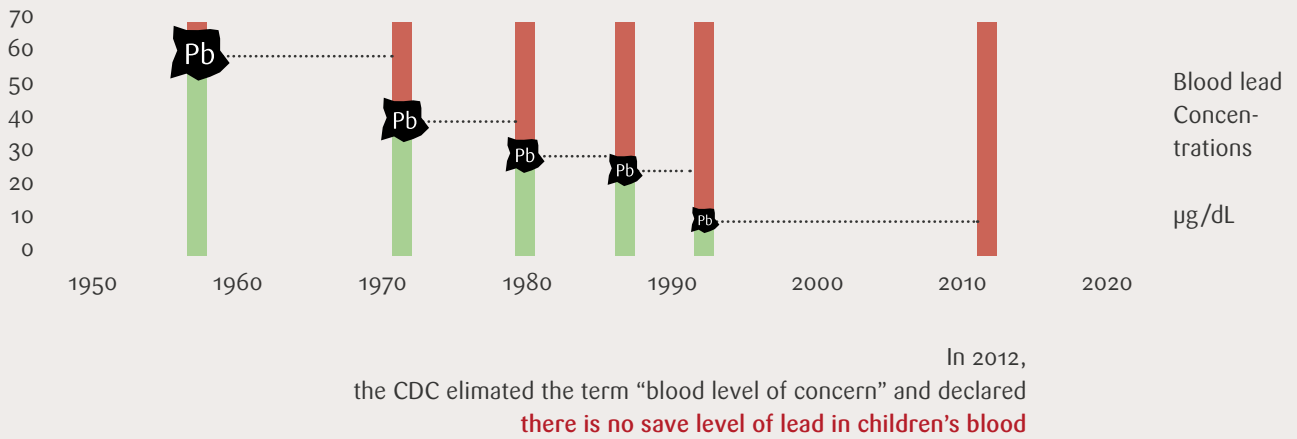
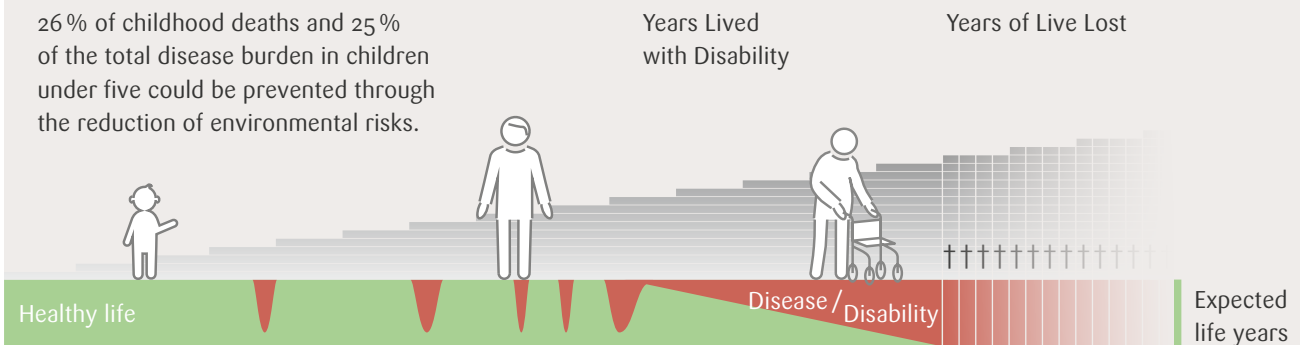


FIGURE 5: Children are harmed when they are exposed, not when the disease or disability manifests

Disability Adjusted Life Year (DALY) is a measure that counts years of healthy life lost.

26 % of childhood deaths and 25 % of the total disease burden in children under five could be prevented through the reduction of environmental risks.



Source: World Health Organization

they are exposed to, irrespective of whether these are harmful or not. And yet, disingenuous arguments of low-levels of risk that are neither true nor compatible with the universality of human rights disregard the child’s right to bodily integrity. Incessant exposure to toxics and pollution can be violent, torturous, degrading, cruel and inhumane.¹³ Exposure can result in the

prolonged pain of cancer and the torture of being left breathless by respiratory diseases or disabilities, and there are psychological impacts on parents who are helpless to protect their children from these impacts.

Children are denied a myriad of human rights without any meaningful opportunity to express their views or participate in the decisions made by the past and present generations who deny them their right to the highest attainable standard of health and maximum development. Very young children lack the physical

¹³ WHO, *World Report on Violence and Health* (2002); and A/HRC/22/53.

and/or mental ability to vocalize opinions and understand the dangers and potential consequences of toxics until long after harm has been inflicted. Even if a parent were somehow able to identify every product and possible source of exposure to toxics that might harm their child, they are often powerless to do anything about it, particularly when it involves food, water or air pollution.

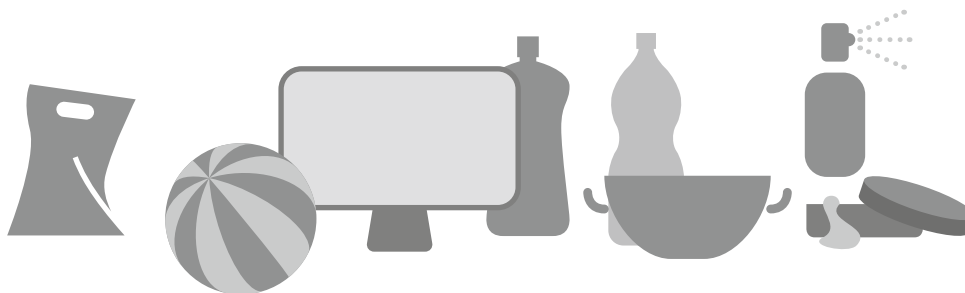
Causation presents a nearly insurmountable obstacle to remedy, with numerous variables and missing information enabling perpetrators to evade accountability. As information is made available, the hazardous substance exposure levels previously considered “safe” continue to fall, and increasing numbers of industrial chemicals and pesticides are being identified as hazardous – helping to prevent harms in the future. This progress is of far less use to child victims of past exposures, including in realizing their right to an effective remedy. Businesses that have left the present generation with contamination are often no longer in existence, financially unable or unwilling to pay for complete remediation.

Prevention of exposure is the only means of ensuring a truly effective remedy. Children exposed are at risk of life-long impacts, many of which are irreversible and difficult to pinpoint to a particular substance or combination of substances. The elevated risks of cancer, diabetes, learning disabilities, respiratory problems, behavioural disorders, hormonal dysfunctions and other health impacts linked to the hundreds of toxic chemicals children are frequently exposed to often cannot be erased. Thus, violations of a child’s bodily integrity cannot be undone. Even if medical treatments are available, the mental suffering of families that frequently accompanies the health impacts of a child’s exposure to toxics cannot be remedied.

States have a duty to prevent exposure, and businesses have a corresponding responsibility.¹⁴ So far, States have failed to design laws and policies that prioritize exposure prevention, thereby failing to make the child’s best interests a primary concern. Although some businesses have taken steps that go beyond the shortcomings of the State, they too have generally failed in their responsibility to prevent children from being exposed to their toxic products and by-products. Law and policies are typically geared towards the risk that accompanies exposure, rather than preventing exposure at the outset. This prevention should be the priority.

States should ensure that the principle of precaution underlies all decisions that may result in childhood exposure to toxics and pollution. They should systematically phase-out substances with intrinsic hazards to protect children from exposure and incentivize businesses to develop safer, less-toxic alternatives. The development of these alternatives should meet health-based criteria for what is and is not acceptable.

Businesses should not delay in developing zero-exposure policies and ensuring that their products and processes do not result in childhood exposure. At least one joint industry and civil society initiative has already developed “zero-exposure” policies for workers, but similar initiatives are needed for children.¹⁵



¹⁴ Report of the Special Rapporteur on Human Rights and Toxics, A/74/480

¹⁵ www.centerforsustainabilitysolutions.org/clean-electronics#cep-n-about

CASE STUDY 3: Deadly exposure to untested consumer products

Everyday consumer products continue to be a major source of toxic exposures, with potentially catastrophic consequences for children and other vulnerable groups.

For example, in the Republic of Korea, millions of people were exposed to toxic chemicals in humidifier sterilizers that had been promoted and sold for consumer “health” and “safety.” These products contained several hazardous substances that were not assessed for health hazards by the chemical or consumer product companies, including a pharmaceutical company. The chemical products are now acknowledged to have killed and injured hundreds of young children, including newborns, as well as pregnant women, new mothers, and older persons who inhaled the toxic product released from the humidifiers.

In the mid 2000s, deadly respiratory illnesses were being reported among young children, women and the elderly. It took investigators six years to identify the cause of the mysterious illness as the humidifier sterilizers. Meanwhile, as many as four million people were exposed to the toxic humidifier disinfectants at home until the product was withdrawn in 2011. According to the South Korean Government, 490,000 to 560,000 persons suffered damage to their health. Yet, only 6,277 people applied to be recognized as victims of this toxic consumer product, and thus only those 6,277 people are eligible for remedy. At least 1,357 cases concern individuals who allegedly died as a result of exposure to the humidifier sterilizer’s toxic chemical constituents.

The companies involved clearly failed to exercise their responsibility to undertake human rights due diligence concerning the toxic chemical ingredients of the humidifier sterilizers. It is abundantly clear and foreseeable, particularly to a pharmaceutical company, that people, including children, would have respiratory exposures to these substances, and this would be incredibly dangerous without having information to make an assessment of the resulting risks. Instead of assuring themselves of the safety of their products, the companies involved completely disregarded the right to bodily integrity, among other rights, in the sale of what was later discovered to be a highly toxic product.

Prosecutors have charged 21 persons with negligent homicide. According to information received in April 2019, 18 of those charged have been found guilty, two not guilty, and the case for one person was pending a decision by the Supreme Court. What remains of particular concern is the limited accountability of the chemical companies involved. In 2018, three companies, SK Chemical, Aekyung Industrial and Emart, were fined a total of USD 125,000 for the failure to label the hazardous chemical ingredients correctly. Considering that a total of 1,357 cases of death have been registered in the course of four rounds of investigation, the fine amounts to approximately USD 92 for each death potentially caused by the chemicals in question.



Realize every child's right to a healthy environment

“STATES PARTIES SHALL RESPECT AND ENSURE THE RIGHTS SET FORTH IN THE PRESENT CONVENTION TO EACH CHILD WITHIN THEIR JURISDICTION WITHOUT DISCRIMINATION OF ANY KIND, IRRESPECTIVE OF THE CHILD’S OR HIS OR HER PARENT’S OR LEGAL GUARDIAN’S RACE, COLOUR, SEX, LANGUAGE, RELIGION, POLITICAL OR OTHER OPINION, NATIONAL, ETHNIC OR SOCIAL ORIGIN, PROPERTY, DISABILITY, BIRTH OR OTHER STATUS.” – UN CRC, ARTICLE 2

Questions often arise of “environmental racism” and “environmental injustice” in the context of pollution. The injustice in the context of children is no exception. Disproportionate exposures and impacts that undermine human dignity, equality and non-discrimination persist for children in countries of all levels of development, from the wealthiest to the poorest.

Today, children are discriminated against by virtue of policies that allow exposures that are profoundly harmful or of unknown hazard for children, but of little consequence to adults. This is a form of discrimination, based on age.

For children living in poverty, the already heightened risks of harm are immeasurably magnified. Children in low-income, minority, Indigenous and marginalized communities are at more risk, as exposure levels in such communities are often higher and are exacerbated by malnutrition, with the adverse effects inadequately monitored.

Children of lower-income families live more frequently in unhealthy housing, including housing that is constructed with toxic materials, contain toxic furniture and are built next to industrial facilities, open drainage canals or high-traffic arteries. Their schools and playgrounds are more likely to be contaminated. And they are at greater risk of exposures through household members who may bring toxic dust home with them from work, who work at home as in the case of backyard recycling of electronics or whom they accompany

to polluted worksites. Children who live in or around locations of widespread pollution or contamination, or whose development may have been impacted by toxic exposures, may be subject to painful teasing and discrimination.

Evidence continues to suggest that nutrition can affect the toxicity of environmental exposures.¹⁶ More specifically, malnutrition and undernutrition that is often prevalent among children in low-income communities further increases the impacts of toxic substances on children in precarious housing. For example, undernourished children are more susceptible to lead because their bodies absorb more lead if they are deficient in calcium, iron or other nutrients.¹⁷

**A CHILD BORN TODAY
WILL DIE 20 MONTHS
SOONER ON AVERAGE BY
BREATHING TOXIC AIR**

Working children are subject to multiple forms of discrimination. Children continue to be forced into one of the worst forms of child labour in cases where they use or are exposed to toxic substances at work. An estimated 73 million children work in mines, agricultural fields and factories, where most are likely to be exposed to various toxic substances. About 60 percent of child labourers work in agriculture, including where pesticides are used.¹⁸ According to UN Environment estimates, at least four million children and women work with

¹⁶ Environmental Health Perspectives 120:771-774 (2012). <http://dx.doi.org/10.1289/ehp.1104712> (22 Feb. 2012)

¹⁷ www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health (23 Aug. 2019)

¹⁸ ILO, “Hazardous work of children and regulation of hazardous chemicals”, 2011.

mercury in artisanal and small-scale gold mines in up to 70 countries globally, with some developing symptoms consistent with mercury poisoning.¹⁹

Environmental injustice contributes to health disparities across countries. Thus, the oftentimes discriminatory nature of air pollution is visible both through its disproportionate impact on children as a group and on children from low- and middle-income countries. The *State of Global Air/2019* report states that a child born today will die 20 months sooner on average by breathing toxic air as a result of outdoor air pollution caused by traffic and industry and indoor air pollution from cooking fires, but it is less than five months sooner for children in the developed world. According to the World Health Organization, 98 percent of

all children under five years of age living in low- and middle-income countries around the world are exposed to air pollution (PM_{2.5}) levels above WHO air quality guidelines. By contrast, in high-income countries, 52 percent of children under five are exposed to levels above WHO air quality guidelines.

States must ensure that laws and policies not only protect children as a vulnerable class, but also base those protections on what is necessary to realize the right of children that are most vulnerable – in particular children in low-income communities – to their highest attainable standard of health. States should further ensure that their businesses, economies and consumption and production patterns do not exploit lower standards of protection in foreign territories.

19 www.unenvironment.org/fr/node/20664

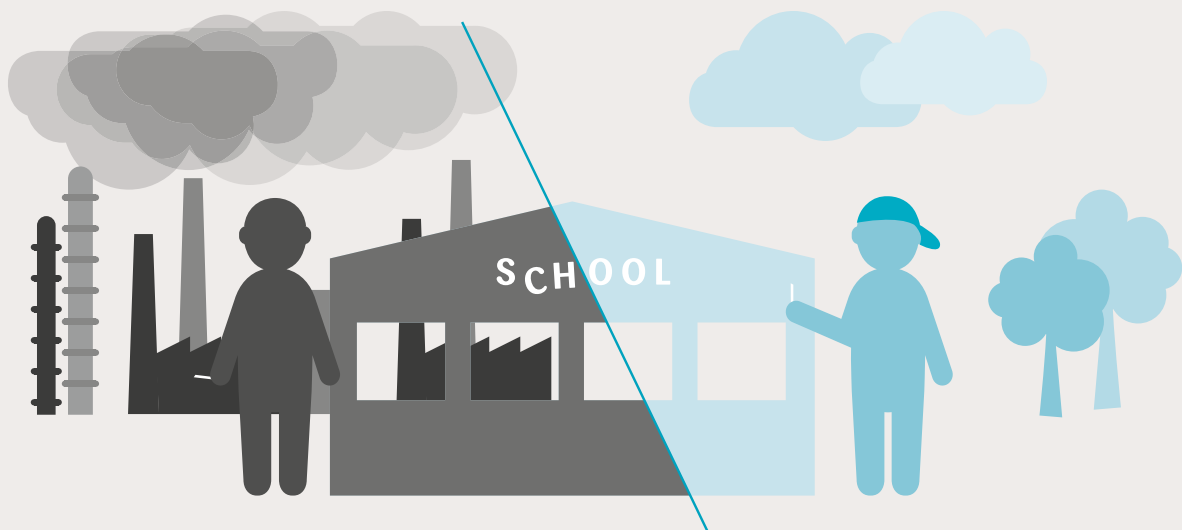
BOX 3: Environmental health disparities

Research shows that children across the United States are exposed to environmental toxins at schools, but Black and Hispanic students and students from low-income families are the most at risk. Five of the ten most polluted school counties have non-white populations of over 20 percent. And while black children represent 16 percent of all US public school students, more than a quarter of them attend schools with the highest levels of air pollution. White children make up 52 percent of the public school system,

but only 28 percent of them attend schools that are the most affected by toxic air.

www.theguardian.com/education/2018/feb/01/schools-across-the-us-exposed-to-air-pollution-hildren-are-facing-risks

www.sciencedirect.com/science/article/abs/pii/S0013935117317188



BOX 4: Business and child rights: The responsibility of businesses to prevent childhood exposure

The vast majority of childhood exposures to toxics arise from the activities, products and supply chains of businesses. Children, particularly those living in low-income communities, pay an incalculable price for increasing consumption and production around the world.

Businesses have a responsibility to respect child rights, including those rights impacted by exposure to toxics. This responsibility does not decrease when States are unwilling or unable to enact necessary laws and standards or to adequately implement and enforce them. To the contrary, businesses have heightened responsibilities in such circumstances.

Businesses should:

- a. As part of their human rights due diligence, identify, prevent and mitigate exposure of children to toxics through their activities, products or business relationships, including global supply chains and other international relationships;
- b. Substitute hazardous substances and polluting practices with safer alternatives;
- c. Where alternatives do not exist, actively invest in the development and adoption of safer alternatives and mitigation measures;
- d. Communicate publicly and objectively the measures they have taken to mitigate potential childhood exposures;
- e. Leverage their purchasing power to compel customers and suppliers to improve their practices; and
- f. Support government efforts to elevate minimum requirements for business protecting children's rights from toxic exposures.

The good news is that businesses can play a tremendous role in reducing childhood exposure, often beyond the minimal compliance requirements of existing laws and standards.

Many retailers have prohibited substances or classes of substances from their products that are particularly toxic for children. For example, IKEA banned toxic flame-retardant chemicals from its furniture long before they were banned by most countries and later under a global treaty.¹ However, older couches, chairs and other items that these less-toxic products have replaced would likely be sold to families without the means of buying new furniture and who do not know about their toxic composition. These older furnishings are now also more likely to shed their toxic contents into homes as they degrade.

This is one example illustrating the ability of businesses to make necessary changes to respect child rights, even while governments are stuck on a treadmill of procedural inaction. However, it also illustrates the risk to the most vulnerable if governments fail to ensure necessary protections. Without governments guaranteeing safer products and healthier environments for all, the child's right to a healthy, non-toxic environment may become even more of a privilege, with low-income communities having to endure disproportionately dirty jobs, dangerous practices and unhealthy products and services.



¹ www.ikea.com/kr/en/files/pdf/b7/68/b768ad00/chemicals_and_substances_en.pdf

Ensure information is available and accessible regarding the child's environment

“THE CHILD SHALL HAVE THE RIGHT TO FREEDOM OF EXPRESSION; THIS RIGHT SHALL INCLUDE FREEDOM TO SEEK, RECEIVE AND IMPART INFORMATION AND IDEAS OF ALL KINDS” – UN CRC ARTICLE 13

“STATES ... SHALL ENSURE THAT THE CHILD HAS ACCESS TO INFORMATION AND MATERIAL FROM A DIVERSITY OF NATIONAL AND INTERNATIONAL SOURCES, ESPECIALLY THOSE AIMED AT THE PROMOTION OF HIS OR HER SOCIAL, SPIRITUAL AND MORAL WELL-BEING AND PHYSICAL AND MENTAL HEALTH.” – UN CRC ARTICLE 17

The right to information is an enabler of many child rights, including the child's right to a non-toxic environment. Information on hazards for children who may be exposed, mitigation measures and safer alternatives can help realize the child's right to a healthy environment. The Convention on the Rights of the Child emphasizes the need for information in the promotion of the physical and mental health of the child. The right to information is further essential to the child's right to freedom of expression and their right to be heard, if not every right of the child.

Whether a matter of insufficiency or unreliability, information is a perennial challenge for children who are or may be victims of human rights violations due to toxic exposures. For example, monitoring pollution levels is often problematic. Companies are tasked by governments to self-monitor their own pollution, often resulting in a lack of independent and reliable information for communities that allege health impacts. The lack of independent information can obstruct access to an effective remedy for years, if not indefinitely, and result in violent or sometimes deadly conflict between businesses and communities. Major information gaps persist around the world for tracking diseases and disabilities that may be linked to childhood exposure to toxics, although innovative programs have been developed.

The challenge of the child's right to information goes far beyond exposure to known pollutants. Another key obstacle is the unknown. For example, the impacts of children's exposure to tens of thousands of synthetic chemicals are largely unknown. For those with known hazards, the true nature and extent of the danger to children is uncovered with time, as more information comes to light. Yet, thousands of chemicals with inadequate information continue to be used where childhood exposure is all but certain, whether from consumer products, residues on food or as contaminants in water and breast milk, often with grave effects (see e.g. case study on consumer products).

For far too many consumer products, information on contents and risks are largely unknown. Expectant mothers who wish to protect their babies by reducing their own exposure and caregivers of children are faced with the tremendous difficulty of identifying safer products. Ingredients are often masked behind claims of business confidentiality and trade secrecy, despite the fact that the public has a right to know whether toxic chemicals are present in the products it consumes. Fortunately, the public is increasingly demanding safer products and healthier environments generally from businesses, helping to incentivize the development of new, innovative technologies that promote the healthy development of children. For example, only five months after the retailer COOP Denmark removed microwave popcorn containing toxic “forever chemicals” in its packaging from its shelves, the retailer's Spanish supplier developed new packaging to resume sales while also protecting children from harmful exposures.

Recently, various businesses have taken positive steps to increase transparency around the toxic chemicals forbidden from their products and supply chains. For example, Apple, Target, Walmart, IKEA and Sephora have become more transparent as part of their efforts to lead on toxic chemicals. Many of these retailers now have lists of prohibited substances or classes of substances for their products that are particularly toxic for children.

However, as countless examples show, many businesses – whether individually or collectively as an industry – are not pulling their weight. Many are not only failing to adopt best available technologies and practices (for example the elimination of lead in paint), but also are failing to comply with minimal standards (for example diesel-gate scandals around the world). Some are actively developing strategies and methods to circumvent compliance, while others are devoting more resources to lowering or eliminating regulations on childhood toxic exposures. For example, trade associations in Europe spent millions of euros to prevent the adoption of strong, health-protective EU-wide standards to protect children from exposure to chemicals in food, water and consumer products that can impact their developments by interfering with their hormone systems.²⁰

No State can meet its obligation to protect the rights of the child without ensuring that information is available and accessible regarding children's exposure to toxic substances. From pollutant release registers to information about chemicals in products, there are many examples of how States have cost-effectively increased transparency around exposures to toxics. While efforts should continue to increase transparency over exposure in general, States should specifically compel businesses to report on childhood exposures to toxic substances that result from their activities, products and supply chains.

There are systematic deficiencies in information, whether it be the safety of tens of thousands of chemicals on the market; pollutant releases and other potential sources of exposure to substances with known and unknown hazards; the amount of human exposure to hazardous substances and the impacts of exposure to a large number of hazardous substances starting from conception.

Even where information is available, however, there is a general lack of disaggregated environmental data linked to social determinants such as income and race, particularly for health and childhood exposures. Databases and tracking methods are largely inadequate in much of the world for diseases, disabilities and deaths that may be due to toxic chemical exposures, particularly for exposures during childhood that do not manifest as adverse health impacts for years or decades.

Information gaps create a fundamental impediment to realizing several human rights. The right of victims to an effective remedy, the right to meaningful participation, the right to not be subject to experimentation without consent, the right to the highest attainable standard of health and several other human rights are all frustrated by large information gaps regarding children's environmental health.

The principles of prevention and precaution must be at the heart of approaches to uncertainty and risk when protecting the rights of the child. No information does not mean no risk, and it does not appear that information will ever be complete about what the actual impacts of exposure will be on young children. Furthermore, parents are often powerless to comprehend, assess and use the information to adequately protect their children.

Children also have special needs regarding their right to information that must be taken into account. Children must themselves have access to environmental health information that is “understandable and appropriate to children's age and educational level.”²¹ However, the reality is often very different. For example, young people are not always satisfied with the current way that environmental issues are communicated. While young people are frequent users of digital media, they do not receive sufficient information through their usual channels of communication. Young people feel pressured to save the planet from climate change and pollution, but they lack access to environmental information that is up-to-date and action-oriented, enhances their problem-solving skills and is embedded in the daily lives of children.²²

20 Stéphane Horel and Nina Holland, “A Toxic Affair”, available at: <https://corporateurope.org/en/pressreleases/2015/05/toxic-affair-how-chemical-lobby-blocked-action-hormone-disrupting-chemicals>

21 Committee on the Rights of the Child, General Comment No. 15 (2013), para. 58.

22 Outcome reports of regional consultations on children's rights and environment for the Children's Environmental Rights Initiative (childrenenvironment.org).

BOX 5: Using participatory approaches to address environmental pollution

In response to the public health crisis of urban air pollution in many cities, civil society has been working with young students across Europe to monitor air pollution levels. A pan-European project in six cities collected data from 50 schools, enabling nearly 20,000 students to engage in the collection of data regarding their schools and the health implications. The results showed varying levels of unhealthy pollutants inside and outside classrooms. All participating schools recorded NO₂ inside the classrooms. As there were no sources of NO₂ in classrooms, these NO₂ levels can only come from outdoor air pollution, notably traffic. Some schools exceeded recommended limits by the WHO for concentration of particulate matter¹.

Within Europe, Poland is the country most affected by air pollution. A nationwide survey shows 62 percent of kindergarten locations exceed national standards for particulate matter concentrations.² No location in Poland meets the stricter WHO recommendations for particulate matter concentration.

The joint project of Forum for Civic Initiatives and terre des hommes – #CodeForGreen – encourages students at eight schools in and around Poznań, Polkowice and Września in Western Poland to learn about local environmental challenges and invent their own technical solutions. For example, students of the technical secondary school – ZSP in Września created a measurement system, which serves to monitor air pollution and makes elevated levels visible to the community. This form of participatory research ensures that children and youth are aware of how air pollution is affecting them and what can be done to reduce it. Students themselves know how the measurement systems work and this empowers them to raise their voice in discussions with politicians on e.g. the pollution of the air. Partly due to the students' engagement, the government of Września has taken first steps to address local environmental challenges, including the installation of more measurement stations in schools and kindergartens across Września with its 46,000 inhabitants. #CodeForGreen also addresses matters of digital exclusion as students from marginalized groups gain a greater understanding of technology and digitalization.



- 1 For more information, see www.env-health.org/wp-content/uploads/2019/06/Healthy-air-children_London.pdf
- 2 Greenpeace/Fundacja#13 (2017): Polskie Przedszkola w Smogu. Online verfügbar (Stand 19.03.20): www.uwagasmog.pl/content/files/Raport_Przedszkola_w_smogu.pdf

School students measure the air quality using their own systems

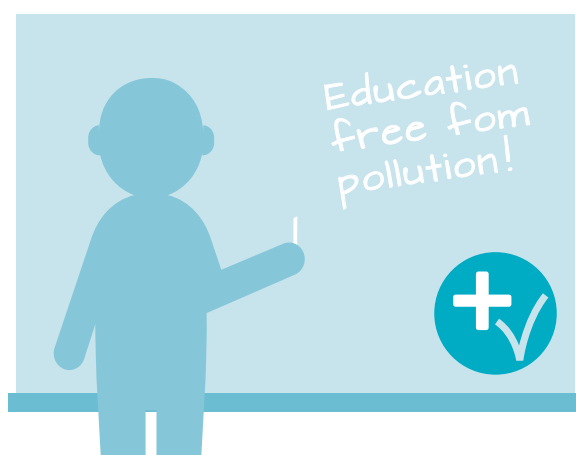
Ensure children enjoy their right to education free from pollution

“STATES PARTIES RECOGNIZE THE RIGHT OF THE CHILD TO EDUCATION, AND WITH A VIEW TO ACHIEVING THIS RIGHT PROGRESSIVELY AND ON THE BASIS OF EQUAL OPPORTUNITY” – UN CRC ARTICLE 28

“STATES PARTIES AGREE THAT THE EDUCATION OF THE CHILD SHALL BE DIRECTED TO: (A) THE DEVELOPMENT OF THE CHILD’S PERSONALITY, TALENTS AND MENTAL AND PHYSICAL ABILITIES TO THEIR FULLEST POTENTIAL ...(B) THE DEVELOPMENT OF RESPECT FOR THE NATURAL ENVIRONMENT”

– UN CRC ARTICLE 29

Tremendous public and private investments are made to help children develop to their fullest potential. One of the primary objectives of the UN Sustainable Development Goals is to ensure inclusive and equitable quality education for all by 2030. High-income countries were recently estimated to spend on average three times more on education than lower income countries. Fortunately, education is one of the biggest specific designations of bilateral and multilateral development assistance. However, these significant investments in education by countries of all levels of development, including overseas development assistance by donor countries, are being undermined by toxic pollution in the environment.



Toxic chemicals undermine the capacity of children to learn, process and retain information. A clear example comes from childhood exposure to lead. Recent studies associate a 1.61-point lower IQ in adults for each five microgram/dl increase in childhood blood lead levels, as well as reductions in perceptual reasoning and working memory. Each IQ point reduction that is avoided translates to tremendous cost savings for society, including the avoidance of compensatory education and income loss. For example, the phase-out of toxic lead additives from gasoline in automobiles is estimated to have saved between USD 17 and 221 for each dollar invested in the phase out.

While the elimination of lead from gasoline is a positive example of how prevention of exposure can help to realize the child’s right to education, children continue to be exposed around the world to lead and other hazardous substances that impede their right to education, among others. Lead exposure continues to be a major concern, with exposures arising from air, water, soil as a result of industrial production (e.g. mining, battery manufacture and recycling) and consumer products, such as toys, tableware and paint. Certain pesticides are associated with neurodevelopmental impacts in children. For example, pre-natal and early childhood exposure to minuscule amounts of chlorpyrifos is documented to correlate with a 1.4 percent IQ reduction for exposed children and 2.8 percent in a measure of working memory.

Mitigation measures to reduce exposure to hazardous substances are also impeding the child’s right to education. From India and China, to Iran, Chile, the United States and Brazil, schools have been closed on account of highly hazardous levels air pollution. The child’s right to education has been infringed by business activities such as industrial production and deforestation (e.g. to create palm oil plantations). Schools in agricultural communities have been exposed to various agro-toxics from unscrupulous aerial spraying of crops.

States must prevent toxic exposure, with special emphasis on school environments, to safeguard the child’s right to education and maximum development of their capabilities. To protect children from exposure and strengthen their capacity to respond to environmental

challenges, environmental health must be integrated into children's curriculum and tailored to the cultural, language and environmental situation of particular populations.²³ Children should be educated about their environmental rights and the impacts of pollution

on such rights. Early age sensitization to the hazards and risks of environmental degradation is essential to ensure that children learn to protect themselves from these risks and can be environmental stewards in whatever professional or non-professional role they take in their lives.

²³ Principle 6 of the Framework Principles on Human Rights and the Environment.

BOX 6: Prevent childhood lead poisoning

A recent study by the Institute for Health Metrics and Evaluation has found that across all countries, approximately 815 million children – one out of three – are estimated to have blood lead levels above the threshold demanding action (5 ug/dl). Lead is an insidious threat to the dignity of children exposed, and their rights to life, health and maximum development, among many others. According to UNICEF and Pure Earth, lead “irreversibly damages children’s developing brains and nervous systems, the heart, lungs and kidneys and often does so whilst causing no or only subtle symptoms in the early stages.”

The actual number of children poisoned by lead may in fact be much higher. The World Health Organization states that there is no safe level of exposure. Even below the

international standard for intervention, lead can damage a child’s health and cognitive development, impacts they will carry throughout their lifetime, affecting their future potential and diminishing their prospects.

While recent figures show the greatest number of children poisoned by lead live in Africa and Asia, with many also affected in Central and South America and Eastern Europe, a closer look at race and income reveal a truly global child rights crisis from lead exposure. In the United States, for example, the crisis of lead poisoning has been acute among children living in disadvantaged communities, clearly illustrating the intersectionality of poverty, race, ethnicity in the enjoyment of a healthy environment.

BOX 7: Dirty air keeps schools closed for days

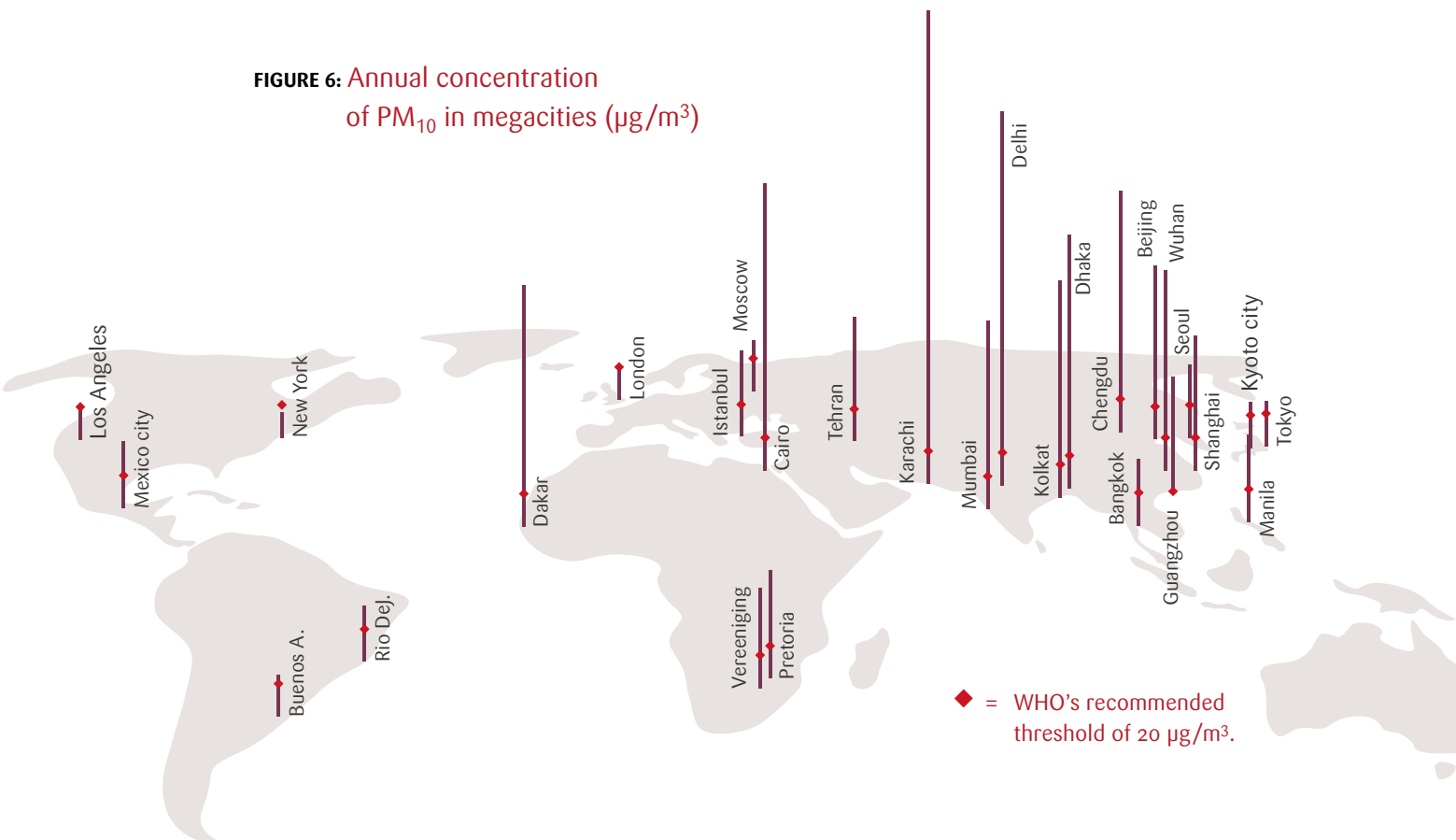
As one of the most polluted cities in the world, Tehran suffers from dangerous levels of air pollution. In the last couple of years, city authorities have had to shut down schools, kindergartens and other public facilities several times as safe thresholds for atmospheric pollution were exceeded many times over for days on end. The capital of Iran counted 111 unhealthy days in 2015. More than 4,000 inhabitants die every year due to air pollution, with many more suffering from respiratory and cardiovascular diseases. The situation worsens during winter when cold air and lack of wind trap air over the capital, which is surrounded on three sides by mountains. According to the World Bank, pollution in Tehran is mainly caused by vehicles, especially buses and trucks, and energy conversion

in refineries and power plants, as well as factories. Trends such as population growth, urbanization and industrial development, amongst others, pose an obstacle to future reductions of air pollution.

However, Iran is not the only country with children unable to attend school because of toxic air. China, India, Indonesia, Thailand and the United States, among other countries, have also suspended schools to protect children from highly hazardous levels of air pollution.

<http://documents.worldbank.org/curated/en/160681527012587818/pdf/126402-NWP-PUBLIC-Tehran-WEB-updated.pdf>

FIGURE 6: Annual concentration of PM₁₀ in megacities (µg/m³)



Particulate matter (PM) is defined as fine inhalable particles that are suspended in the air, regardless of the size of the particle. The two most common size fractions of PM measures are PM₁₀ and PM_{2.5}. PM₁₀, also referred to as “coarse PM,” are particles of 10 micrometers in diameter or smaller; PM_{2.5}, also referred to as “fine PM” are a subset of those particles, namely those that are 2.5 micrometer in diameter or smaller.

Source: WHO 2016

TABLE 1: Economic impacts on countries of reduced intelligence and learning capacity due to toxic exposures

Toxic substance	Country	Costs from reduced learning capacity
Lead	USA	64.8 billion USD annually
Mercury	Global	10.5–14.3 billion USD annually (from inhalation and by-product emission only)
	USA	13 million USD annually
Pesticides (organophosphates)	USA	\$44.7 billion annually from organophosphates
	EU	\$194 billion annually from organophosphates
Toxic flame retardants (PBDEs)	US	\$266 billion per year in the U.S., compared with
	EU	\$12.6 billion per year

Sources: Cost of Inaction, UNEP 2012 – figures adjusted for inflation; Trasande et al., The Lancet, Diabetes and Endocrinology, 4 (12), 2016

Realize the child's right to be heard regarding their exposure to environmental insults

“STATES PARTIES SHALL ASSURE TO THE CHILD WHO IS CAPABLE OF FORMING HIS OR HER OWN VIEWS THE RIGHT TO EXPRESS THOSE VIEWS FREELY IN ALL MATTERS AFFECTING THE CHILD, THE VIEWS OF THE CHILD BEING GIVEN DUE WEIGHT IN ACCORDANCE WITH THE AGE AND MATURITY OF THE CHILD.” – UN CRC ARTICLE 12

The right to be heard and taken seriously is one of the guiding principles of the Convention on the Rights of the Child as it recognizes the child as a full human being with the ability to participate in society and share in decisions about their wellbeing. The right to be heard is a right of the individual child and a right of children as a group. The views expressed by children add relevant perspectives and experience, and they should be considered in decision-making.²⁴

The right to be heard is inextricable from threats to life, health, development and bodily integrity, such as those posed by toxics and pollution.²⁵ The fact that states and businesses permit hundreds of millions of children to be exposed to environmental chemicals without their knowledge and prior consent represents a flagrant disregard for both their best interests and the right to be heard.

Children are exposed to harmful substances before they are even capable of forming their own opinions, and this is during a period of their lives when they are most at risk from toxic exposures that lead to the development of associated diseases, disorders and illnesses. While parents and guardians have primary responsibility for the upbringing and development of the child,²⁶ they are, for many reasons, powerless to protect children from exposure to toxics from a myriad

of unavoidable sources. For example, mothers may not be aware that the food they eat is contaminated with mercury, the water they drink with heavy metals or their air with hazardous pollutants, all of which can be passed on to the child. While individuals and society may have the power to reduce these exposures through different means, these efforts can take years or decades, resulting in countless children harmed day after day, year after year.

**IN 2019,
476,000
NEWBORNS WORLDWIDE DIED
AS A RESULT OF
AIR POLLUTION EXPOSURE**

Source: State of Global Air / 2020

Once children are capable of forming their views, they are not being heard on important decisions related to toxics and pollution. Youth are generally not present in political decision-making bodies nor on company boards. While various indicators suggest rising concern for the environment among young people, the authors of this report do not know of any systematic attempt to seek and consider young people's views on these matters for relevant decision-making on toxic pollution.

Children can be agents of change. Today's problems will not be solved by this generation, but by the children of this generation and the generations to come. It is essential that children are informed and heard on pollution and other environmental hazards at the earliest of ages. Young people should be actively involved in collective action and decision-making. Not only is this in the interest of realizing the multigenerational changes that are necessary, but it is also their right to be heard.

²⁴ Committee on the Right of the Child, General Comment No. 12 (2009) on the right of the child to be heard, para. 12.

²⁵ Committee on the Rights of the Child, General Comment No. 12 (2009) on the right of the child to be heard, para. 87.

²⁶ Convention on the Rights of the Child, art. 18.

Ensure businesses do not exploit lower standards of protection abroad

“MAN HAS THE FUNDAMENTAL RIGHT TO FREEDOM, EQUALITY AND ADEQUATE CONDITIONS OF LIFE, IN AN ENVIRONMENT OF A QUALITY THAT PERMITS A LIFE OF DIGNITY AND WELL-BEING, AND HE BEARS A SOLEMN RESPONSIBILITY TO PROTECT AND IMPROVE THE ENVIRONMENT FOR PRESENT AND FUTURE GENERATIONS. IN THIS RESPECT, POLICIES PROMOTING OR PERPETUATING APARTHEID, RACIAL SEGREGATION, DISCRIMINATION, COLONIAL AND OTHER FORMS OF OPPRESSION AND FOREIGN DOMINATION STAND CONDEMNED AND MUST BE ELIMINATED.”

– PRINCIPLE 1, DECLARATION OF THE UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT (1972 STOCKHOLM DECLARATION)

While States have enacted stronger measures of environmental protection within their borders, these measures often have not been met with equal standards for the conduct of businesses in their territory or jurisdiction. This has resulted in a significant exploitation of workers and communities, particularly in the middle- and low-income countries, including the health and well-being of children in these countries.

States continue to permit the manufacture and export of hazardous chemicals that are prohibited from use domestically. High-income countries continue to export toxic industrial chemicals and pesticides to lower income countries with known or significant likelihoods of exposures. Not only do exporting countries profit from the sale of these chemicals, but they also often import products that were produced using these prohibited chemicals, leaving the significant externalities of consumption and production in vulnerable countries.

For example, the children of the Yaqui people in Sonora, Mexico, have been poisoned by the import of pesticides no longer allowed for sale in the United States and Europe. The UN Committee on the Rights of the Child recommended that Mexico stop importing such

pesticides because of grave human rights violations in 2015. The recommendation has yet to be implemented.

The racialised nature of these standards cannot be ignored as dangers are externalised to communities of African descent and other people of colour. This grave concern also exists in exporting countries with respect to the siting of polluting industries and dumping of hazardous waste. In July 2020, thirty-six UN human rights experts called for an end to this practice, noting that “Failing to address this longstanding exploitation is discrimination, pure and simple.”²⁷

However, the problematic transfer of environmental health hazards to poorer countries is much larger than simply exporting hazardous substances and wastes. Disposal to lower income countries is a form of discrimination against children in these jurisdictions. For example, manufacturing activities that have been outsourced are contributing significantly to air pollution crises in low- and middle-income countries.

Tens of millions of children are engaged in hazardous work in global supply chains, where they are often exposed to toxic chemicals.²⁸ For example, children around the world continue to work in artisanal and small-scale mining for metals and minerals, where they are exposed to mercury and other toxic chemicals. Agriculture is also a major concern for children’s rights. In countries around the world, particularly in Africa, the ongoing exposure of children to hazardous pesticides and sickening substances on tobacco leaves (i.e. green tobacco sickness) constitutes one of the worst forms of child labour, implicating both tobacco companies and chemical manufacturers around the world. Child labour also persists among the recycling operations of end-of-life ships (shipbreaking) on the beaches of India, Bangladesh and Pakistan, making countries and companies around the world complicit in this abhorrent practice.

²⁷ www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=26063&LangID=E

²⁸ International Labour Organization (ILO), *Children in Hazardous Work: What We Know, What We Need To Do* (2011).

States must stop exporting unwanted hazards to poorer countries. France's recent legislation stopping the export of chemicals prohibited from use domestically is the right approach to ending double standards with regard to toxic chemical use, and it is a practice that other States should emulate. In addition, States should proactively prohibit the exploitation of their lands and

peoples through such double standards. For example, African countries have made progressive efforts to prohibit such imports. Under the Bamako Convention, it is a crime to export substances that are forbidden from use in the country of manufacture to any of the 25 African countries that are party to the Convention.

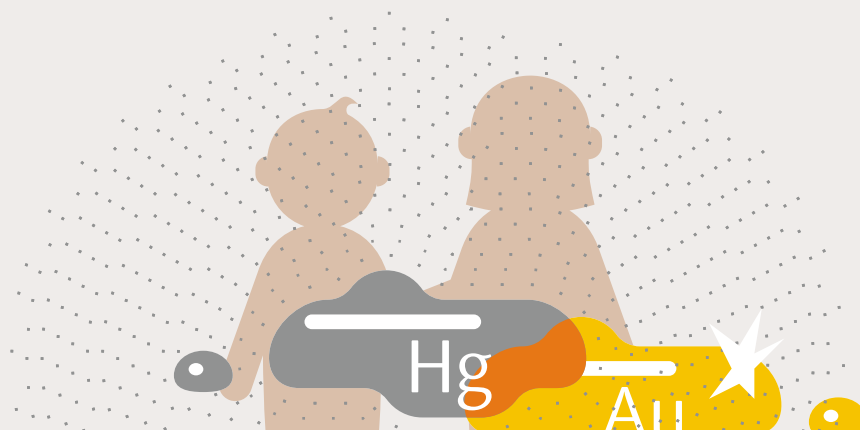
CASE STUDY 4: Artisanal and small-scale gold mining

Mercury is used in artisanal and small-scale gold mining (ASGM) to extract gold from ore by forming “amalgam” – a mixture composed of approximately equal parts mercury and gold. The amalgam is heated, evaporating the mercury from the mixture, leaving the gold. This method is cheaper, quicker and easier than most alternative methods. However, it has devastating effects on children in ASGM communities in Africa, Asia and Latin America, where about 10–15 million people work in the mines, including children. ASGM is the largest source of global mercury pollution in air and water.

In areas where mercury is used for ASGM, vapours nearly always exceed the WHO limit for public exposure. In addition to inhalation, children are also potentially exposed mercury (methylmercury) through consumption of fish, and at the earliest and most sensitive stages of their development, while in their mother's womb. Children in ASGM communities have concentrations of mercury in their urine at levels where the probability of developing the classic neurological signs of mercury intoxication is “high”. Severe impacts on the mental and physical development of children in these communities are commonly observed.

For example, for centuries the Atrato River has been the lifeblood for Afro-Colombian and Indigenous communities living along its banks in Colombia's Choco region. However, the rich gold deposits in the river basins have helped fuel conflict over these resources and extensive mercury contamination, which is among the highest in the world. Illegal small-scale mining has surged alongside decades of guerrilla warfare and armed conflict, which continues despite historic peace accords between FARC and the Government. Caught between these forces, local communities are forced to continue to mine for gold using toxic mercury.

In 2016, Colombia's Constitutional Court granted environmental personhood rights to the Atrato River. This includes the requirement for States to implement the “protection, conservation, maintenance and restoration” of both the river and its communities. However, it is alleged that thus far there has been a complete lack of state action and protection of the communities who face an existential threat to their identity and culture.



BOX 8: Lead – French ban on the export of prohibited pesticides

In 2018, France passed a law that would, starting in 2022, prohibit the export of agro-chemicals no longer authorised in Europe due to concerns that they could harm people, animals or the environment. France, like Germany, the United Kingdom, Switzerland, Italy, Spain and other European

countries, continues to export highly hazardous “plant protection products” to countries with limited capacity for monitoring and oversight of their use, resulting in widespread concerns that communities are being poisoned.

CASE STUDY 5: Impacts of the electronics lifecycle on the child's right to a healthy environment

Electronics play a major role in the global economy, from computers and phones, to transportation and the infrastructure of financial markets. The lifecycle of electronics results in childhood toxic exposures. Common electronic products may contain hundreds of toxic substances, and many more toxic substances are used and produced through their lifecycle.

- Raw materials: Children continue to be employed in the extraction of metals and minerals used in electronic products. For example, the United Nations Children's Fund (UNICEF) has estimated that 40,000 children toil in mines extracting cobalt, a toxic substance used in cell phones, laptop computers and cars by companies that have resources for human rights due diligence.
- Manufacturing: Historically, women of reproductive age have been the predominant demographic in electronics manufacturing, with repeated cases of tragic and preventable harms to their reproductive health. Children born to women in electronics manufacturing have suffered from diseases and disabilities. Miscarriages are also widely reported.
- Waste: Toxic electronic waste continues to be exported to developing countries where children are often living and working in recycling yards, exposed incessantly to highly hazardous levels of multiple toxic substances, including dioxins, lead and mercury. For example, lead-acid batteries are very common in motor devices and recycled lead can be a significant source of income. It is estimated that lead-acid battery recycling poses a severe health risk to almost one million people globally.



Conclusion

Every child has the right to a healthy environment. The UN Convention on the Rights of the Child implicitly enshrines the child's right to a healthy environment through the rights and duties contained therein, such as to life, maximum development the highest attainable standard of health and protection from the dangers and risks of pollution, among others.

Despite near universal ratification of the Convention, the world is enduring a "silent pandemic" due to the widespread exposure of children to hazardous substances during critical periods of development.

To help ensure and accelerate a transition to less polluting practices, safer chemicals and cleaner communities, States and relevant actors must clearly and explicitly recognize that every child has the right to a healthy environment – to live, study and play in a non-toxic environment. States have a duty to respect, protect and fulfil this right by preventing exposure to hazardous substances and safeguarding the quality of our environment for present and future generations.

To do so, this report recommends that States should:

1

Make the child's best interests the primary consideration

2

Unlock justice and an effective remedy to realize a healthy environment

3

Prevent exposure, ensuring that no child is born pre-polluted

4

Realize every child's right to a healthy environment

5

Ensure information is available and accessible regarding the child's environment

6

Ensure children enjoy their right to education free from pollution

7

Realize the child's right to be heard regarding their exposure to environmental insults

8

Ensure businesses do not exploit lower standards of protection abroad

Business enterprises have critical responsibilities with respect to the above recommendations as well, requiring greater effort from them. All business enterprises must respect children's rights by undertaking child rights due diligence to identify risks and prevent chil-

dren from being exposed to hazardous substances, as well as to prevent and mitigate exposure through their business relationships. Businesses with global supply chains must ensure children's health and wellbeing are not being exploited overseas, now more than ever.

These recommendations to States and businesses are reinforced by a new resolution of the UN Human Rights Council calling on States to protect children from environmental harm.

There is an urgent need for States and relevant actors to realize the child's right to a healthy environment. Millions of premature deaths and countless cases of

diseases and disabilities could be prevented through the realization of the child's right to a healthy environment. Solutions to this preventable crisis are at hand, and they begin with recognition of this fundamental human right in the implementation of child rights and the obligations incumbent on States in respecting, protecting and fulfilling the right of every child to a healthy environment.



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