



A Primer on **HUMAN RIGHTS** and **TOXIC CHEMICALS**



Swedish Society for Nature Conservation

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About the Primer

The Primer on Human Rights and Toxic Chemicals (Primer) was co-authored by Bas-kut Tuncak, Senior Attorney of the Center for International Environmental Law and Richard Gutierrez, JD, LL.M., founder and Executive Director of BAN Toxics.

Reason for the Primer

The purpose of the Primer is to provide a simple, easy to understand introduction to Human Rights and toxic chemicals for government officials and civil society organizations and stakeholders information on toxic chemicals, particularly its sound management, and its linkages to human rights. The Primer is not meant to be a legal treatise to expound on each individual right nor is it meant to be an exhaustive manuscript detailing the many chemicals of concern facing our society. Instead, it should be used as a guide in understanding the linkages between the two issues and as a quick reference for discussing the substance of the rights and how toxic chemicals impacts these rights.

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About CIEL

Founded in 1989, the Center for International Environmental Law (CIEL) uses the power of law to protect the environment, promote human rights, and ensure a just and sustainable society. CIEL is dedicated to advocacy in the global public interest through legal counsel, policy research, analysis, education, training, and capacity building.

Disclaimer

The sole responsibility of the content of this Primer lies with the co-authors. SSNC is not responsible for any use that may be made of the information contained therein.

Moreover, the views reflected in the Primer are those solely of the co-authors.

List of Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ASGM	Artisanal and Small-scale Gold mining
BLL	Blood lead levels
CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women
CIEL	Center for International Environmental Law
CRC	Convention on the Rights of the Child
DALY	Disability Adjusted Life Years
decaBDE	Decabromodiphenyl ether (brominated flame retardant)
DEHP	Bis(2-ethylhexyl) phthalate used as plasticizers
FAO	Food and Agriculture Organization of the United Nations
FPIC	Free, prior, and informed consent
HRC	Human Rights Council
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICPPR	International Covenant on Civil and Political Rights
ILO	International Labour Organization
NGO	Non Government Organization
NIOSH	National Institute for Occupational Safety and Health
OECD	Organisation for Economic Cooperation and Development
PBT/vPvB	Persistent, Bio-accumulative and Toxic/very Persistent and very Bio-accumulative
POPs	Persistent Organic Pollutants
TLV	Threshold limit value
TWA	Time-weighted average
UDHR	Universal Declaration of Human Rights
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNEP	United Nations Environment Programme
UNGPBHR	United Nations Guiding Principles on Business and Human Rights
US EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WHO	World Health Organization

Introduction

Human Rights and the Precautionary Principle

Chemicals used in various products and manufacturing processes have enabled millions of people throughout the world to lead richer, more productive, and more comfortable lives. Chemicals put to beneficial use and traded in today's markets hold implicit significance to world economies. Governments recognize that certain industries (e.g. pharmaceutical and agricultural sectors) rely on chemical use to develop products, and that chemicals may facilitate the advancement of clean technology or help overcome poverty, in general. However, chemicals and the pollution linked with their manufacture, use, and disposal can come at a cost. Increasingly, governments, NGOs, and civil society acknowledge that the environment and public health are made vulnerable by current protocols for managing chemicals and hazardous waste, which lack comprehensiveness and effectiveness.

The global chemical industry has expanded quickly during the last decades; the past ten years in particular have shown dramatic growth in both developing countries and countries with economies in transition. Chemical industry data indicates that the global chemistry industry output, which was valued at US\$ 171 billion in 1970, grew to a value of US\$ 4.2 trillion in 2010. Notably, these figures are not adjusted to account for inflation or price changes. Looking forward, data suggests that the share of global chemical production in developing countries will increase; in particular, the production of high volume basic chemicals is expected to shift away from States that are a part of the Organisation for Economic Cooperation and Development (OECD).

Given these figures, achieving sound management practices for chemicals throughout their lifecycle is a fundamental step to mitigating foreseeable risks imposed upon human health and ecosystems.

Chemical Industry

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Given these figures, achieving sound management practices for chemicals throughout their lifecycle is a fundamental step to mitigating foreseeable risks imposed upon human health and ecosystems.^{vii}

ⁱ UNEP, "Global Chemicals Outlook Towards Sound Management of Chemicals." (2013). Available from: http://www.unep.org/pdf/GCO_Synthesis%20Report_CBDTIE_UNEP_September5_2012.pdf.

ⁱⁱ *Ibid.*, xiii.

ⁱⁱⁱ *Ibid.*, xiii.

^{iv} *Ibid.*, 11.

^v *Ibid.*, 11.

^{vi} Organisation for Economic Cooperation and Development, "OECD Environmental Outlook for the Chemicals Industry," 11 (2001). Available from: <http://www.oecd.org/env/ehs/2375538.pdf>.

^{vii} UNEP, "Global Chemicals Outlook Towards Sound Management of Chemicals." (2013).

Impacts of Toxic Pollution

The United Nations Environment Programme's (UNEP's) "Costs of Inaction on the Sound Management of Chemicals" report states that, based upon the data gathered and analyzed, "[the mismanagement of] chemicals can have significant negative effects on human health and the environment . . . [and that] associated costs to society can be considerable."

Public health risks associated with chemicals occur through various exposure pathways, such as ingesting contaminated water and food, inhaling contaminated air or dust, dermal exposure, fetal exposure during pregnancy, or transferring toxic substances through breast milk.

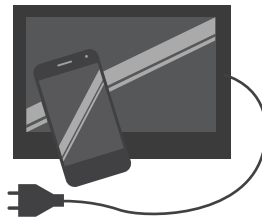
In 2011, the World Health Organization (WHO) reported 4.9 million global deaths (8.3% of the global total of deaths in 2004) and 86 million global Disability Adjusted Life Years (DALYs) (5.7% of the global total of DALYs in 2004) attributable to environmental exposure and management of selected chemicals. In addition, WHO reported approximately 375,000 annual deaths due to occupational particulates, 240,000 annual deaths due to unintentional chemical ingestion, and 186,000 annual deaths due to self-poisoning through pesticide ingestion. According to WHO authors, the amount of chemical-caused deaths and disabilities were undoubtedly underestimated because some chemicals (e.g. dioxins, cadmium, and mercury) were excluded from the study due to incomplete data and information. UNEP's "Global Chemicals Outlook Towards Sound Management of Chemicals" report also indicates that toxic chemical exposure is frequently linked to acute poisoning and chronic diseases such as cancer, reproductive and developmental disorders, cardiopulmonary issues, and other respiratory disorders.

The cumulative effects of improperly controlled chemicals on human health are expansive and expensive. A 2011 study by Trasande and Liu reports "the costs of lead poisoning, prenatal methylmercury exposure, childhood cancer, asthma, intellectual disability, autism, and attention deficit hyperactivity disorder were US\$ 76.6 billion in 2008."

Those most vulnerable and susceptible to the toxic effects of chemicals include individuals living in poverty, lay workers in industrialized sectors, elderly persons, infants and children. Persons living in poverty are more

likely susceptible to higher levels of chemical pollutants because they disproportionately dwell on marginal land like landfills or polluted sites, live near chemical intensive industries, or work in high hazard informal sector jobs.

Chemicals are either used to comprise a wide range of products, or otherwise passed "downstream" as emissions or unintended byproducts in industrial processes. UNEP's "Global Chemicals Outlook towards Sound Management of Chemicals" lists areas where significant amounts of chemicals are used or emitted:



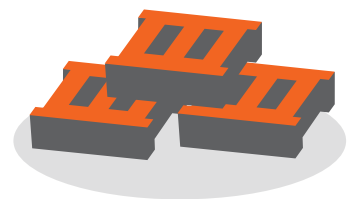
- **Electronics**
More than 1,000 different chemicals are used to manufacture electronics, such as mobile phones and personal computers;



- **Textile production**
The textile sector makes use of chemicals as dyes, oils, starch, waxes, surfactants, pesticides, and specialized chemicals such as flame-retardants and water repellants;



- **Flame-retardants**
This is a broad category of chemicals, including brominated and chlorinated organic compounds. The plastics industry comprises the largest use of flame-retardants;



- **Cement production**
Hydraulic cement manufacturing can emit a range of hazardous air emissions, thus being a significant source of pollution.

Duty of States to Protect Human Rights



Universal Declaration on Human Rights

- Article 2** - No distinction of human rights shall be based on demographic classification.
- Article 3** - The right to "life, liberty and the security of person."
- Article 23** - The right to "just and favourable conditions of work."
- Article 25** - The right to a "standard of living adequate for the health and well-being of himself and of his family . . ."



International Covenant on Economic, Social and Cultural Rights

- Article 5** - Duty of States to refrain from prioritizing economic gain to the detriment of health and livelihood.
- Article 11** - Duty of States to provide an adequate standard of living.
- Article 12** - Duty of States to improve environment and industrial hygiene.



International Covenant on Civil and Political Rights

- Article 2** - Duty of States to proactively protect rights within the Covenant.
- Article 6** - Right to life.
- Article 19** - Right to participate in political decision-making.



United Nations Guiding Principles on Business and Human Rights

- Principle 1** - Duty of States to regulate intrastate and interstate business in accordance with human rights law.

As explicated in both soft and hard legal instruments, International Human Rights Law grants certain human rights for all people, and imposes State obligations to protect against human right violations. Because toxic chemicals risk harming human life and wellbeing, such rights and duties may be evoked to induce greater control over manufacturing processes and product release.

For example, though non-binding, Article 3 of the Universal Declaration of Human Rights (UDHR) stands for the principle that all have the right to "life, liberty and security of person." Article 25 of the UDHR declares a right to "a standard of living adequate for the health and well-being of himself and of his family, including food . . . and the right to security in the event of unemployment, sickness, disability . . . or other lack of livelihood in circumstances beyond his control." Article 2 stresses that such rights shall not be deprived on the basis of demographic distinction.

In contemplation of the enumerated rights in the UDHR, the Human Rights Council (HRC) has specifically recognized the fact that "*the unsound management of chemicals and waste [threatens] the enjoyment of safe, clean, healthy and sustainable environment.*" Environmental degradation has direct and indirect negative impacts human rights, particularly to "*the right to life, the right to the enjoyment of the highest attainable standard of physical and mental health, the right to an adequate standard of living and its components, such as the right to food, and the rights to safe drinking water and sanitation, and to adequate housing.*"

The principles of the UDHR are reiterated in binding instruments such as the International Covenant on Economic, Social and Cultural Rights (ICESCR) and the International Covenant on Civil and Political Rights (ICCPR). Article 11 of the ICESCR imposes a positive duty on States to take appropriate steps to provide an adequate standard of living for all people in regard to food and continuous improvement of living conditions.

E-WASTE LEAD MERCURY DECAHCBDE
PHTHALATES LEAD E-WASTE PESTICIDE
MERCURY PESTICIDES PHTHALATES

Recognizing the right to *“the enjoyment of the highest attainable standard of physical and mental health,”* Article 12 imposes a positive duty on States to improve *“all aspects of environmental and industrial hygiene,”* as well as prevent, treat and control *“endemic, occupational and other diseases.”* Article 5 importantly imposes a negative duty on States to refrain from exercising certain rights to the destruction of other rights provided for in the Covenant. Thus, States should not seek to achieve economic gain to the detriment of health and livelihood.

Article 2 of the ICCPR also imposes a positive obligation on States to uphold the provisions of the treaty, not only by enacting laws to protect human rights, but also by pursuing *“legitimate aims in order to ensure continuous and effective protection of Covenant rights.”* Therefore, States must proactively and reactively protect the inherent right to life, under Article 6, as well as the right to freely participate in the conduct of public affairs, under Article 19. As such, States are obliged to continuously advance the health and livelihoods of citizens, while keeping the citizenry informed of health risks so that they may effectively engage and participate in government decision-making.

The United Nations Guiding Principles on Business and Human Rights (UNGP) harkens the existing duties of States to protect human rights as guidance for the regulation of intrastate and interstate businesses. Principle 1 of the United Nations Guiding Principles on Business and Human Rights (UNGP) expresses that *“States must protect against human rights abuse within their territory and/or jurisdiction by third parties, including business enterprises. This requires taking appropriate steps to prevent, investigate, punish and redress such abuse through effective policies, legislation, regulations and adjudication.”*

A State may be held responsible for human rights violations by private actors, and may be considered to have breached their international obligations when human rights violations are either attributable to the State, or where the State failed to take appropriate steps to prevent, investigate, punish, and redress private actors’ violations.

With regard to chemical safety, States’ duties are enounced in the three main legally binding treaties – the Basel Convention, the Rotterdam Convention, and the Stockholm Convention. The Strategic Approach to International Chemical Management (SAICM), although a non-binding policy framework, is also worth noting as another reference to establish a standard of care needed to minimize risks to human and environmental health.

The *“Paths to Global Chemical Safety: The 2020 Goal and Beyond”* report, produced by the Center for International Environmental Law (CIEL) and the Swedish Society for Nature Conservation, states that, although significant progress has been made in the field, these four international agreements, even if fully implemented, are *“unlikely to fully protect human health and the environment from the risks of dangerous chemicals.”*

Serious problems hinder States’ ability to ensure the enjoyment of human rights with respect to chemicals. First, the sound management of chemicals on a global scale has yet to be actualized. Shortcomings are attributable to implementation challenges at national levels, insufficient financial resources and capacity, a narrow scope of chemicals and issues addressed in international agreements, lack of necessary information, and resistance to new global agreements.

The legally binding chemicals and waste conventions were never designed to address all chemicals of global concern. Some chemicals and chemical compounds untouched by legally binding multilateral environmental agreements under a full life cycle approach include:

- Carcinogens;
- Mutagens;
- Reproductive toxicants;
- Chemicals that only have evidence of persistence and/or bioaccumulation (both organic and inorganic);
- Nanomaterial;
- Toxic heavy metals (e.g. lead, cadmium);
- Combination effects of mixtures of chemicals in humans and the environment;
- Toxicants released or produced through the extraction of natural resources;
- Active pharmaceutical ingredients, pharmaceutical metabolites, and industrial chemicals in medical devices;
- Substances with epigenetic effects;
- Radioactive substances;
- Endocrine disrupting chemicals.

Prevention is another pivotal concept for the complete enjoyment of human rights in an industrial world. Prevention recognizes that the social and economic costs of avoiding damage and injury are almost always less than the costs of repair, treatment, or compensation after the fact. In spite of this, no existing international agreement establishes a minimum standard of data necessary to bring a new chemical into the market.

The gaps in the international framework must be addressed. Even if the conventions were fully implemented, they would not adequately address many human rights implications. Inadequacy in the international legal framework prevents States from fulfilling human rights obligations with regard to chemical safety, especially in developing countries, countries facing conflicts, and countries with fragile governments.

Responsibility of Businesses to Undertake Due Diligence



United Nations Guiding Principles on Business and Human Rights

Principle 11 - The responsibility of businesses to respect human rights, and to address adverse human right impacts attributed to business undertakings.

Principle 13 - The responsibility of business to seek to prevent adverse human rights impacts directly linked to operations, products or services of the business.

Principle 17 - The responsibility of businesses to execute due diligence to identify, mitigate and prevent adverse human rights impacts

In the last decades, large enterprises and international businesses have undergone far-reaching structural change, which now plays an increasingly important role in the international marketplace. The nature and speed of economic evolution has presented new challenges for the enterprises and stakeholders involved. Presently, multinational enterprises have the opportunity to implement best practice policies for sustainable development, which may ensure help achieve economic, environmental, and social objectives.

According to Principle 11 of the UNGP, *“Business enterprises should respect human rights. This means that they should avoid infringing on the human rights of others and should address adverse human rights impacts with which they are involved.”* Likewise, the OECD *“Guidelines for Multinational Enterprises”* also affirms that enterprises should *“[r]espect human rights, which means they should avoid infringing on the human rights of others and should address adverse human rights impacts with which they are involved.”*

The commentary to Principle 11 of the UNGP elaborates on this concept, stating that “[t]he responsibility to respect human rights is a global standard of expected conduct for all business enterprises wherever they operate.” Further, “[t]he responsibility to respect human rights] exists independently of States’ abilities and/or willingness to fulfill their own human rights obligations, and does not diminish those obligations.”

In this context, enterprises’ due diligence plays a critical role. The OECD Guidelines define the concept of due diligence as “the process through which enterprises can identify, prevent, mitigate and account for how they address their actual and potential adverse impacts as an integral part of business decision-making and risk management systems.”

Principle 17 of the UNGP states that “In order to identify, prevent, mitigate and account for how they address their adverse human rights impacts, business enterprises should carry out human rights due diligence. The process should include assessing actual and potential human rights impacts, integrating and acting upon the findings, tracking responses, and communicating how impacts are addressed.”

In addition to this, according to Principle 13 of the UNGP, “[business enterprises are required to] [s]eek to prevent or mitigate adverse human rights impacts that are directly linked to their operations, products or services by their business relationships, even if they have not contributed to those impacts.”

Adhering to the base principles of the UNGP, businesses owe an independent duty to eliminate human rights violations caused by exposure to toxins that are traceable to policies, processes, or products.

Human Rights Implicated by Toxic Chemicals

International law imposes an explicit duty upon States to respect, protect and fulfill human rights. The following sections itemize the rights and principles that are implicated by the continued use or release of toxic chemicals into human and natural environments. A variety of harms may result from unregulated or unchecked exposure to toxic chemicals, so it is important to consider the range of duties and rights available as bases for legal arguments to remedy potential harms:

Principle of Non-Discrimination



Universal Declaration on Human Rights

Article 2 - No distinction of human rights shall be based on demographic classification.

Article 7 - Equality before the law and equal access to the protection of the law.



International Covenant on Civil and Political Rights

Article 26 - Equality before the law and equal access to the protection of the law.



Convention on the Elimination of All Forms of Discrimination against Women

Article 2 - Duty of States to pursue a policy of eliminating discrimination against women



Convention on the Rights of the Child

Article 2 (2) - Duty of States to protect children from discrimination.

The principle of non-discrimination is contained within various international conventions and binding agreements. Article 7 of the Universal Declaration of Human Rights states, *"All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination."*

Similarly, under Article 26 of the International Covenant on Civil and Political Rights (ICCPR), *"All persons are equal before the law and are entitled without any discrimination to the equal protection of the law."*

Distinct groups of people more likely to be vulnerable have also been taken into account when establishing the principle of non-discrimination. According to Article 2 of the Convention on the Elimination of All Forms of Discrimination against Women, *"States Parties condemn discrimination against women in all its forms, [and] agree to pursue by all appropriate means and without delay a policy of eliminating discrimination against women."* Addressing age inequities, Article 2(2) of the Convention on the Rights of the Child (CRC) affirms that *"States Parties shall take all appropriate measures to ensure that the child is protected against all forms of discrimination or punishment on the basis of the status, activities, expressed opinions, or beliefs of the child's parents, legal guardians, or family members."*

The language of CDAW and CRC does not specifically relate non-discrimination policy to toxic pollution vulnerability. However, implicitly, toxic control policies that fail to protect the health of women or children may be considered discriminatory.

Similar exposures to certain chemicals may produce different impacts among children, women and men. For example, WHO recognizes that younger children are particularly vulnerable to lead, and may experience permanent disability when subjected to exposure levels and rates that adults otherwise might tolerate. International treaty obligations must attempt to regulate toxic chemicals to protect the right to life and wellbeing among the younger and older generations alike.

Women, though not necessarily more vulnerable to toxins than men, may come into contact with a variety of chemical and products in which men are generally not exposed (e.g. make-up, hygienic products). To non-discriminatorily protect the rights of women, chemicals regulation of typically female products should comport with international human rights standards.

Right to Information



International Covenant on Civil and Political Rights

Article 19 - The right to the freedom to seek, receive and impart information.



Convention on the Rights of the Child

Article 17 - The duty of State's to ensure the child's access to information regarding his or her physical and mental health.

Under Article 19 of the International Covenant on Civil and Political Rights (ICCPR), *"everyone has the freedom to seek, receive and impart information and ideas of all kinds."* Where human rights are violated due to toxic chemicals, gaining access to information is essential in order to give effect to other rights, such as due process, guarantees to a fair trial and the right to a remedy. There is wide recognition of the public's right to know about toxic chemicals present in residential environments. Governments also increasingly recognize the right to access information about toxic substances in products. The ILO's Chemicals Convention (c.170) recognizes workers' rights to information about the hazards of chemicals used in the workplace, and employers have a duty to inform workers in this regard.

In addition, the Convention on the Rights of the Child (CRC), under Article 17, affirms that State Parties *"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 [...] physical and mental health."*

In the presence of evidence of adverse effects of chemicals on human health and the environment, there are usually large data gaps; of the thousands of chemicals on the market, just a fraction has been thoroughly evaluated to determine their effects on human health. Although certain States have taken measures to provide information and raise awareness about the potential dangers of toxic chemicals, information pertaining to composition, emissions or effluent discharges of toxic chemicals is sparse.

For instance, WHO has listed lead as one of the top chemicals of major public health concern. No international treaty regulates lead pollution throughout its lifecycle, and information about emissions is often lacking. As a prime example, *"despite having established requirements for facilities to report lead emissions and waste on an annual basis under the RETC in Mexico, approximately 50 percent of the lead battery recycling facilities in Mexico failed to report any lead emissions."* Moreover, certain consumer products contain lead (e.g. pigments, paints, solder, stained glass, crystal vessels, ammunition, ceramic glazes, jewelry, toys, cosmetics and traditional medicines), and may not be labeled to warn consumers of risks. Also, workers may not have access to information on the risks of lead used or produced in manufacturing processes, and may lack access to resources to monitor lead exposure levels.

Product labels are an important tool to convey at the point of purchase that a product contains toxic chemicals, such as phthalates, DecaBDE, or mercury. Phthalates are commonly used in plastic products; however, products are seldom labeled as containing phthalates, depriving consumers of their right to access to information. DecaBDE is present in common consumer products such as televisions, computers, curtains, dust and foods, unbeknownst to consumers.

Labeling laws have helped bolster consumer confidence in the states of Connecticut, Louisiana, Maine, Massachusetts, Minnesota, New York, Rhode Island, and Vermont - the sale of mercury-added products is prohibited without a label indicating that the product contains mercury and information concerning proper disposal. However, in countries where right-to-know policies are unenforced, weak or absent, labeling laws are nonexistent.

Right to Participation



Universal Declaration on Human Rights

Article 21 (1) - The right for all to participate in government decision-making



International Covenant on Civil and Political Rights

Article 25 - The right and opportunity for all to participate in government decision-making.



UN Declaration on the Rights of Indigenous People

Article 18 - The right of indigenous peoples to engage in decision-making over matters that may affect indigenous rights; to vote; to have equal access to public services.



OECD Guidelines for Multinational Enterprises

Encourages consultation between private initiative and potential stakeholders impacted by business undertakings.

The Universal Declaration of Human Rights and the International Covenant on Civil and Political Rights (ICCPR) both recognize a right to political participation. According to Article 21(1) of the Universal Declaration of Human Rights, *“Everyone has the right to take part in the government of his country, directly or through freely chosen representatives.”*

Article 25 of the International Covenant on Civil and Political Rights affirms that *“Every citizen shall have the right and the opportunity [...] (a) To take part in the conduct of public affairs, directly or through freely chosen representatives; (b) To vote and to be elected at genuine periodic elections which shall be by universal and equal suffrage and shall be held by secret ballot, guaranteeing the free expression of the will of the electors; (c) To have access, on general terms of equality, to public service in his country.”*

Numerous environmental international treaties adopted since the Stockholm Conference call on states to take measures to ensure that the public is given broad rights of participation in decision-making processes, including the Convention on Access to Information, Public Participation and Access to Justice in Environmental Matters, (Aarhus, June 25, 1998).

An important realization of the right to participation is through the engagement of businesses and enterprises with local communities and, in general, stakeholders that may be affected by certain activities. The OECD Guidelines for Multinational Enterprises encourage enterprises *“to participate in private or multi-stakeholder initiatives and social dialogue on responsible supply chain management.”* The guidelines further suggest that enterprises engage stakeholders in meetings, hearings or other forms of consultation, relying on principles of good faith to drive proceedings.

Likewise, the UNGP also highlights the right to stakeholder participation. According to Principle 21, *“In order to account for how they address their human rights impacts, business enterprises should be prepared to communicate this externally, particularly when concerns are raised by or on behalf of affected stakeholders. Business enterprises whose operations or operating contexts pose risks of severe human rights impacts should report formally on how they address them.”*

Right to Free, Prior, and Informed Consent

Article 18 of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) specifically states highlights the right of participation amongst indigenous people: “[i]ndigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions.”

Worldwide, many cases are documented in which the right to participation has been ignored, or not comprehensively fulfilled. For example, in 1998, the Awas Tingni Mayagna (Sumo) Indigenous Community filed a complaint to the Human Rights Commission against the government of Nicaragua, alleging that the government had granted logging concessions on indigenous forestlands without consulting the Awas Tingni community.

The Human Rights Commission submitted the case to the Inter-American Court. Despite the fact that the group had no real property title to the land in question, the Inter-American Court ruled in favor of the Awas Tingni, holding that the land concession was unconstitutional and in contravention to Article 23 of the American Convention on Human Rights - the right to Participate in the Government.



UN Declaration on the Rights of Indigenous People

Article 19 - Duty of States to consult with indigenous people prior to adopting legislative measures that will affect them.



ILO Indigenous and Tribal Peoples Convention of 1989

Article 6, 7, 16, 22 - Duty of governments to consult indigenous representative institutions.



Rotterdam Convention on the Prior Informed Consent

Requires informed consent prior to trade of severely toxic chemicals.

States have a duty, and businesses have a responsibility, to consult, cooperate, and generally involve local and indigenous communities in decision-making processes prior to the approval of any project potentially affecting their rights, lands, territories, or other resources. Indigenous Peoples’ right to free, prior and informed consent (FPIC) has been recognized “by a number of intergovernmental organizations, international bodies, conventions and international human rights law in varying degrees and increasingly in the laws of State.”

According to Article 19 of the UNDRIP, “[s]tates shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.”

Right to Access to Effective Remedy

The ILO Indigenous and Tribal Peoples Convention of 1989 refers to the principles of free, prior, and informed consent in Article 6, 7, 16, and 22 - providing that governments shall consult the peoples concerned, through appropriate procedures, in particular through their representative institutions, also establishing means by which these people may freely participate in government decision-making to at least the same extent as other members of population.

The right to free, prior, and informed consent in the specific context of toxic chemicals has been established by the "Rotterdam Convention on the Prior Informed Consent" procedure for certain hazardous chemicals and pesticides in international trade of 1998. The Convention applies to banned or severely restricted chemicals and severely hazardous pesticide formulations that may impact human health and the environment. The Convention was developed from the work undertaken by the UNEP and FAO, in the operation of voluntary prior informed consent procedure. As an outcome of the Convention, the UNEP amended London guidelines for the Exchange of Information on Chemicals in International Trade and the FAO International Code of Conduct on the Distribution and Use of Pesticides.

Even so, the right to free, prior, and informed consent may still be violated in developing countries, especially in Africa, despite institutional progress to advance the right, without limiting its application only to indigenous people.

For example, Human Rights Watch has reported that residents in Karamoja, Uganda voiced concerns about potential environmental damage and a general lack of information with reference to private sector mining activities in the area.



International Covenant on Civil and Political Rights

Article 2 - Right to an effective remedy for human rights violations.



United Nations Guiding Principles on Business and Human Rights

Principle 22 - Need for businesses to help remediate human rights abuses.

Principle 25 - States should provide effective remedy for business-related human rights abuses.

Principle 26 - Need for effective judicial mechanisms and processes to remedy human rights abuses.

Under Article 2 of the ICCPR, all have the right to an effective remedy for violations of human rights. According to Principle 25 of the UN Guiding Principles on Business and Human Rights (GPBHR), *"As part of their duty to protect against business-related human rights abuse, States must take appropriate steps to ensure, through judicial, administrative, legislative or other appropriate means, that when such abuses occur within their territory and/or jurisdiction those affected have access to effective remedy."*

The right to access effective remedy is also closely related to enterprises' due diligence; Principle 26 of the GPBHR states that *"States should take appropriate steps to ensure the effectiveness of domestic judicial mechanisms when addressing business-related human rights abuses, including considering ways to reduce legal, practical and other relevant barriers"* that hinder access to remedy. Additionally, according to Principle 22, *"[w] here business enterprises identify that they have caused or contributed to adverse impacts, they should provide for or cooperate in their remediation through legitimate processes."*

Right to Life

Child and adult exposure to toxic chemicals without consent may be in violation of human rights. Numerous cases around the world pertaining to chemical poisoning suggest a lack of access to an effective remedy. In China, many residents living in the regions of Henan, Shaanxi Hunan, and Yunnan have been affected by serious lead poisoning, due to the presence of lead smelters and battery factories. Despite Chinese legislation that calls for greater transparency over pollution issues, local authorities often withheld the results of lead poisoning tests performed on children. In other cases, parents reported that they were allowed to see the results from initial testing, but not results from follow-up testing. The fact that the population barely understood the extent that lead contamination permeated their lives limits the availability of an effective remedy.

For victims of adverse effects resulting from exposure to certain chemicals (e.g. phthalates), accessing an effective remedy is fraught with obstacles. In fact, it is difficult to isolate one source of exposure, because of the ubiquitous nature of phthalates, and because adverse effects may appear decades after exposure. It is furthermore almost impossible to track the products containing phthalates (especially those used in old housing tools), even though some are likely to contain the phthalates that are currently restricted. Because the "cocktail effect" of multiple exposures is largely unexplored, the effects of phthalates are even harder to identify - further complicating the access to effective remedy.



International Covenant on Civil and Political Rights

Article 6 - The right to life.

General Comment No. 06 - States should take all possible measures to increase life expectancies.



Convention on the Rights of the Child

Article 6 - Child's inherent right to life and the duty of the State to ensure survival and development.

According to Article 6 of the ICCPR, "Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life." Similarly, Article 6 of the Convention on the Rights of the Child (CRC) recognizes that "every child has the inherent right to life" and that the survival and development of the child is ensured to the "maximum extent possible."

UN Human Rights Committee has clarified that, "[t]he expression "inherent right to life" cannot properly be understood in a restrictive manner, and the protection of this right requires that States adopt positive measures . . . [taking] all possible measures . . . to increase life expectancy, especially in adopting measures to eliminate malnutrition and epidemics."

In the last few decades, toxic pollution has seriously affected the right to life in many cases; perhaps most famously by the direct impact of acute mercury contamination on fishing villages of Minamata Bay in Japan, which caused thousands of deaths.

Right to the Highest Attainable Standard of Health

Lead is another chemical of high concern. It impairs the normal functioning of the brain and central nervous system and may trigger convulsions, comas, or even death. WHO estimates that lead pollution accounts for 143,000 deaths per year, with the highest burden in developing regions of the world.

Serious threats to the right to life come from electronic waste as well. The main risks stem from the presence of potentially hazardous substances released during recycling and material recovery. For example in the informal recycling facility of Guiyu, China, various studies have reported the soaring levels of toxic heavy metals and organic contaminants in samples of dust, soil, river sediment, surface water, and groundwater. Concurrent to these results are the observed high incidence of skin damage, headaches, vertigo, nausea, chronic gastritis, and gastric and duodenal ulcers of residents within the same area. A study by Xu et al. reports that, as a consequence of informal e-waste recycling, the Guiyu had approximately four times higher risk of stillbirth (4.72%) compared to control site locations (1.03%).

But air pollution remains the largest environmental health risk. A 2014 WHO report attributes around 7 million deaths to air pollution exposure. This number accounts for an eighth of total global deaths, and impacts are disproportionately felt in low- and middle-income countries in South East Asia and Western Pacific regions.

The right to life is threatened by the release of toxic chemicals in the lithosphere, hydrosphere and atmosphere. States must work to limit human exposure to toxic substances, taking all appropriate means, including stricter regulation and enforcement to increase the life expectancy of human populations.



Universal Declaration on Human Rights

Article 25.1 - *“Everyone has the right to a standard of living adequate for the health of himself and of his family, including food, clothing, housing and medical care and necessary social services.”*



International Covenant on Economic, Social and Cultural Rights

Article 10 - Duty of states to take special measures to protect and assist children.

Article 12 - The right to enjoy the highest attainable standard of physical and mental health.

Article 12.2 - *“steps to be taken by the States parties ... to achieve the full realization of this right.”*



Convention on the Rights of the Child

Article 24 - A child’s right to enjoy the highest attainable standard of health.

Under Article 12 of the International Covenant on Economic, Social and Cultural Rights (CESCR), *“The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”* CESCR also recognizes the right of workers to healthy working conditions.

General Comment No. 14 by the Committee on Economic Social and Cultural Rights clarifies that the concept of *“the highest attainable standard of health”* should be understood as *“the right of enjoyment of ... conditions necessary for the realization of the highest attainable standard of health.”* Some underlying determinants of health therefore are *“adequate supply of safe food, nutrition and housing, healthy occupational and environmental conditions.”*

The Committee further elaborates that the requirements of Article 12.2 to improve all aspects of environmental and industrial hygiene entails, *“the prevention and reduction of the population’s exposure to harmful substances such as radiation and harmful chemicals or other detrimental environmental conditions that directly or indirectly impact upon human health.”*

Finally, the Committee recognizes that special considerations must be paid for the health of women, children and adolescents, older persons, persons with disabilities, and indigenous persons. Considering principles of non-discrimination and equal treatment as well as the various health vulnerabilities of different demographic populations, preventive measures for the protection of health shall incorporate consideration of all those possibly exposed to toxics. The Committee has specifically identified a violation of the obligation to protect where there is a *“failure to enact or enforce laws to prevent the pollution of water, air and soil by extractive and manufacturing industries.”*

Specifically with respect to the rights of children, under Article 24 of the Convention on the Rights of the Child (CRC), *“States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health [...] taking into consideration the dangers and risks of environmental pollution”* (emphasis added). Article 10 of CESCR also calls for *“special measures of protection and assistance [to] be taken on behalf of all children and young persons without any discrimination.”* Every country except for the United States of America is a party to the Convention on the Rights of the Child.

Finally, the WHO Constitution also refers to the highest attainable standard of health concept: *“The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.”*

Toxic chemicals constitute a threat for the realization of children’s and adults’ right to the highest attainable standard of health. For example, WHO estimates that childhood lead exposure contributes to about 600,000 new cases of children developing intellectual disabilities every year. These effects and the physical effects of childhood lead exposure are believed to be irreversible, disabling the full realization of the right to health and other human rights during adult life.

In areas where mercury is used to extract gold from ore, typically in developing countries, the right to health and protection is seriously impeded. Several environmental and health assessment studies have confirmed severe mercury contamination in artisanal and small-scale gold mining (ASGM) communities, as well as the high incidence of symptomatic mercury intoxication to the workers. For instance, airborne mercury concentration over an 8-hour time-weighted average (TWA) in Venezuela ranged from 0.1 to 6,315 µg/m³, with a mean of 183 µg/m³. Twenty percent of the TWA measurements were above the National Institute for Occupational Safety and Health (NIOSH) recommended exposure limit of 50 µg/m³, and 26 percent exceeded the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLV) of 25 µg/m³.

Electronic waste recycling activities had contributed to the elevated blood lead levels (BLL) in children living in China. The geometric mean BLL of children in Luqiao in Zhejiang province, China was 6.97 µg/dL, with 38.9 percent of the children having BLLs above 10 µg/dL. When compared to a control group, the researchers also found a negative relationship between BLLs and IQ, thus cementing evidence on the potential threat of e-waste recycling on children’s health.

Right to Food

With reference to DecaBDEs, the Persistent Organic Pollutants Review Committee of the Stockholm Convention on Persistent Organic Pollutants (POPs) states, "there is evidence for adverse effects to critical endpoints including reproduction, survival, nerve- and endocrine systems. (C-)decaBDE is also degraded to lower brominated PBDEs, with known PBT/vPvB [Persistent, Bio-accumulative and Toxic/very Persistent and very Bio-accumulative] and POP properties. Lower brominated congeners contribute in the outcome of BDE-209 toxicity."

As a final example, phthalates act as endocrine disruptors, with particularly concerning impacts to fetus and children's physical and behavioral development; phthalates are related with Autism Spectrum Disorders. They can also cause irreversible physical effects such as reproductive tract malformations in male newborns, reduction of anogenital distance, nipple retention, and reduced semen quality. These adverse effects are related to decreased fetal testosterone production in the male reproductive system interfering with androgen-mediated development.

Epidemiological studies continue to show the negative impacts of some chemicals to human health. A human rights based approach to control such toxins would demand greater State regulation over the commercial use of such toxins and enforcement against unpermitted releases of the toxin into the environment.



Universal Declaration on Human Rights

Article 25 - The right to food to fulfill an adequate standard of living.



International Covenant on Economic, Social and Cultural Rights

Article 11 - The right to food to fulfill an adequate standard of living.

General Comment No. 12 - Obligations of the State to ensure the right to food:

1. Duty to respect the right to food;
2. Duty to protect the right to food;
3. Duty to fulfill the right to food (implement policies).

According to Article 25 of the Universal Declaration of Human Rights and Article 11 of ICESCR "[e]veryone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food."

General Comment No. 12 by the Committee on Economic, Social and Cultural Rights emphasizes that the right to food implicitly refers to quantity and quality of food. Food should be "free from adverse substances," and protective measures should be put in place to "prevent contamination of foodstuffs through... bad environmental hygiene...[and] care must be taken to identify and avoid or destroy naturally occurring toxins."

The right to adequate food is established also in the Food and Agriculture Organization (FAO) Voluntary Guidelines to support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security, and the "access to, and consumption of, adequate, safe and nutritious food" has also found protection under the Food Assistance Convention.

Right to Water

Some chemicals, such as DecaBDE, have extremely low water solubility, which makes diet the most important exposure route in aquatic and terrestrial food webs. Dietary sources are the major contributor to decaBDE body burdens for most adults, with decaBDE detected in many food types, especially those containing animal fat (e.g. oils, fish and shellfish, meat and meat products, and eggs).

In the case of phthalates, these chemicals have been broadly used in food packaging, and thus diet can be a common route of exposure as well. However, because of the ubiquitous nature of phthalate contamination, it is complicated to accurately determine their levels in food by a laboratory.

Mercury pollution, on the other hand, is widespread in water bodies, threatening a very important source of high quality protein—fish and shellfish. A study by the US Geological Survey (USGS) sampled predatory fish in streams at 291 locations through the United States. The researchers found that mercury was present in all of the fish sampled, and that 27 percent of the samples even exceed the US EPA human health criterion of 0.3 micrograms of methylmercury per gram of wet weight. The Food and Agriculture Organization (UN FAO) estimates that fish provide more than 2.9 billion people with at least 15 percent of their average per capita animal protein intake. Thus, some people cannot simply reduce their fish consumption without facing hunger or starvation, even though their protein source is contaminated with mercury.

The prevalence and bioaccumulation of toxins in important food sources is a startling source of human exposure. When the choice comes down to malnutrition, starvation or the ingestion of toxic-laden food, then human rights must be implicated. Under International Human Rights Law, states are behooved to protect human food sources from toxic contamination, thereby ensuring the highest attainable standard of human health.



Universal Declaration on Human Rights

Article 25 – The right to food to fulfill an adequate standard of living.



International Covenant on Economic, Social and Cultural Rights

Article 11 – The right to food to fulfill an adequate standard of living.

Article 12 – The right to enjoy the highest attainable standard of health.



Convention on the Elimination of All Forms of Discrimination against Women

Article 14 – the right to “enjoy adequate living conditions, particularly in relation to ... water supply.”



Convention on the Rights of the Child

Article 24 – highest attainable standard of health.

The right to water is closely tied to the right to food, as food webs and water sources interact in conjunction, and human survival is dependent upon both. The right to water is implicitly referenced by the ICESCR as a right to an “adequate standard of living” under Article 11, and the right to enjoy “the highest attainable standard of physical and mental health” under Article 12.

Right to Adequate Housing

General Comment No. 15 by the Committee on Economic, Social and Cultural Rights expounds that the right to water “entitles everyone to sufficient, safe and acceptable water for personal and domestic use.” Further, Article 12 should be interpreted as a duty to take steps to “prevent threats to health from unsafe and toxic water conditions.” Steps should include monitoring and proactive protection of natural water resources. Specific consideration should be paid to rural and deprived urban areas, as well as to indigenous peoples’ access to water, so that such areas are protected from unlawful encroachment and pollution.

Other core international human rights treaties that explicitly recognize the right to water include the Convention on the Elimination of All Forms of Discrimination against Women, and the Convention on the Rights of the Child. Article 14(2)(h) of CEDAW imposes a duty upon States to ensure women the right to “enjoy adequate living conditions, particularly in relation to ... water supply.”

Article 24(2)(c) of the CRC asserts the duty for States to take appropriate measures to ensure the “right of the child to the enjoyment of the highest attainable standard of health,” particularly by providing “clean drinking water, taking into consideration the dangers and risks of environmental pollution.”

Further, The UN General Assembly has recognized “the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights.” This recognition supplements with the FAO’s 2005 Voluntary Guidelines to support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security, which state that “access to water in sufficient quantity and quality for all is fundamental for life and health,” adding also that “States should strive to improve access to ... water resources and their allocation among users ... in an equitable manner, ... including safeguarding drinking-water quality.”

Industrial processes that effect water quality through the release chemicals can have lasting detrimental effects on human health.



International Covenant on Economic, Social and Cultural Rights

Article 12 - Right to an adequate standard of living, including adequate housing.



European Convention on the Legal Status of Migrant Workers

Article 13 (4) - Provided housing for migrant workers shall be ‘suitable’



African Charter on the Rights and Welfare of the Child

Article 20 (2) (a) - States should assist parents to provide material assistance for housing.



European Social Charter

Articles 15, 16, 23, 31 - The right to adequate housing

According to Article 25 of the Universal Declaration of Under Article 12 of the International Covenant on Economic, Social and Cultural Rights (CESCR), “The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate [...] housing, and to the continuous improvement of living conditions.” The Sixth Session of the Committee on Economic, Social and Cultural Rights, in its General Comment No. 4, explains that “the right to housing should not be interpreted in a narrow or restrictive sense [...]. Rather it should be seen as the right to live somewhere in security, peace and dignity.”

E-WASTE LEAD MERCURY DECA BDE
PHTHALATES LEAD E-WASTE PESTICIDE
MERCURY PESTICIDES PHTHALATES

Principle No. 2 of the WHO's "Health Principles of Housing" affirms that "Adequate housing provides protection against injuries, poisonings and thermal and other exposures that may contribute to chronic disease and malignancies; special attention should be paid to structural features and furnishings, indoor air pollution, chemical safety, and the use of the home as a workplace."

The WHO also affirms that housing constitutes the environmental factor most frequently associated with conditions for disease; for example, inadequate and deficient housing and living conditions are invariably associated with higher mortality and morbidity rates.

At the regional level, the right to adequate housing is recognized in the "European Convention on the Legal Status of Migrant Workers" (1977), the "African Charter on the Rights and Welfare of the Child" (1990) and the revised "European Social Charter" (1996). In addition to that, numerous conferences, declarations and plans of action, such as the "Vancouver Declaration on Human Settlements" (1976), "Agenda 21" (1992), the "Istanbul Declaration on Human Settlements" (1996), the "Habitat Agenda" (1996) and the "Millennium Declaration" and "Millennium Development Goals" (2000) have also helped clarify various aspects of the right to adequate housing and have reaffirmed States' commitments to its realization.

For example, the use of lead in paint has left many living in homes contaminated with lead, placing health of children and adults at risk. Studies in certain cities have shown that children living in poor communities are more likely to have lead poisoning from lead in paint. This compounds an already elevated risk of adverse health effects for impoverished children resulting from malnutrition.

According to WHO, lead paint causes some 600,000 new cases of intellectual disabilities in children every year. In New York City, hundreds of city children still test positive annually for blood-lead levels considered dangerous. The children almost always are from poor neighborhoods, living in houses built when it was legal to use lead in indoor housing paint.

DecaBDE is a threat to the right to adequate housing as well; its persistent presence in several house products is a threat to life conditions, particularly of young children. Emissions of decaBDE to the environment occur at all stages of its life cycle, but service life has assumed to be one of the highest periods. Similarly, Phthalates are released into the indoor environment from commonly used indoor products, such as furniture, upholstery, wall coverings, flooring, aromatic and deodorant aerosol products. As a result of its wide use in building material, DEHP seems the most abundant, and it can be found in house dust and detected in children urine, especially in boys.

The proliferation of toxic chemicals in housing material and paints, as well as in household products is a cognizable threat the right to adequate housing. International and regional mechanisms should be evoked where States have failed to redress the harmful impacts resulting from toxins in and around the house, and the failure of States or business entities to warn of the existence of such toxins.

Right to to Enjoy the Benefits of Scientific Progress



Universal Declaration on Human Rights

Article 15 - The right to enjoy benefits of scientific process.



Arab Charter on Human Rights

Article 42 - The right to take part in cultural life and enjoy the benefits of scientific progress and its application.

According to Article 15 of the International Covenant on Economic, Social, and Cultural Rights (ICESR), States parties *"recognize the right of everyone: [...] (b) To enjoy the benefits of scientific progress and its applications,"* also stating that *"2. The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for the conservation, the development and the diffusion of science and culture."*

The Board of Directors of the American Association for the Advancement of Science (AAAS) has adopted a statement on the right to enjoy the benefits of scientific progress and its applications, *"[r]ecognizing that this right lies at the heart of the AAAS mission and the social responsibilities of scientists."* AAAS has committed to, *"pursu[ing] opportunities to collaborate with the global scientific community so that the voice, interests and concerns of scientists can be brought to this process."*

Various regional instruments specifically recognize the right to enjoy the benefits of scientific progress. For example, Article 42 of the Arab Charter on Human Rights recognizes the right to everyone to *"take part in cultural life and to enjoy the benefits of scientific progress and its application."*

During the meeting organized by United Nations Educational, Scientific and Cultural Organization (UNESCO) on *"the Right to Enjoy the Benefits of Scientific Progress and its Applications"* in 2009, the participating experts noticed that *"within a discussion on international obligations regarding the right to enjoy the benefits of scientific progress, more attention should be paid to the responsibilities of international organizations and private actors."* It was also suggested that the UNESCO procedure (under 104 EX/Decision 3.3 (1978)) for handling complaints of alleged violations of human rights in its fields of competence - including the right to enjoy the benefits of scientific progress - could be used more often to further the implementation of this right.

As scientific advancement helps to evolve industrial processes products evolves, society should not be denied the opportunity to benefit from such improvements. As an extension, businesses are behooved to apply the 'best available technology' to reduce toxic emissions, and thereby help realize the enjoyment and benefits of scientific progress.

Right to a Healthy Environment



Declaration of the United Nations Conference on the Human Environment

Principle 1 - The fundamental right to adequate conditions of life in an environment of quality that permits well-being.



International Covenant on Economic, Social and Cultural Rights

Article 12.2 - Duty of States to improve environmental and industrial hygiene.



1981 African Charter

Article 24 - Right to general satisfactory environment favorable to their development..



1988 Additional Protocol to the American Convention on Human Rights

Article 11 - Right to live in a healthy environment.



2003 Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa

Article 18 - Right to a healthy and sustainable environment.



Arab Charter on Human Rights

Article 38 - Right to a healthy environment



2012 Human Rights Declaration by the Association of Southeast Asian Nations

Para. 28(f) - Right to a safe, clean and sustainable environment.



1998 Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters

Article 1 - Intergenerational right to an adequate environment for health and well-being.

A healthy environment is a necessary condition to ensure people's health, as part of the definition of health itself; in the Constitution of the World Health Organization (WHO), States have agreed to regard health as a "state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." More than 100 constitutions in the world either guarantee a right to a clean and healthy environment, impose a duty on the state to prevent environmental harm, or mention the protection of the environment or natural resources.

According to Principle 1 of the "Declaration of the United Nations Conference on the Human Environment," "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."

The environment is explicitly mentioned in the International Covenant on Economic, Social and Cultural Rights (CESCR), in Article 12(2) on the right to health: "The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for: [...] (b) The improvement of all aspects of environmental and industrial hygiene." Article 24 of 1981 African Charter asserts the "right to a general satisfactory environment favorable to their development." The 1988 Additional Protocol to the American Convention on Human Rights (art. 11), the 2003 Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (art. 18), the 2004 Arab Charter on Humans Rights (art. 38), and the 2012 Human Rights Declaration by the Association of Southeast Asian Nations (para. 28(f)) comprise a list of regional agreements that reference the right to a healthy environment.

Right to Privacy

In regard to a child's right to a healthy environment, WHO also affirms that "it should be a priority of all countries and international and national organizations to provide safe environments for all children and reduce exposure to environmental hazards through promotion of healthy behaviours, education, and awareness raising at all levels, including the community, family, and child."

Finally, Article 1 of the 1998 Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) recognizes an intergenerational right to an adequate environment for health and well-being.

Human rights are interrelated, indivisible, and interconnected. Some of these rights are clearly implicated by an ongoing exposure to an unhealthy environment, which prevents individuals from enjoying many other fundamental rights. All the aforementioned cases in which fundamental human rights are not secured for communities affected by toxic pollution caused by chemicals constitute a violation against the right to a healthy environment.

The right to privacy is an emerging concept in International Human Rights Law that may serve as an extension to the right to a healthy environment. Article 8 of the European Convention for the Protection of Human Rights and Fundamental Freedoms states that all have "the right to respect for his private and family life, his home and his correspondence," and that the public officials may not interfere with such right except as "is necessary in a democratic society in the interests of "national security, public safety of the economic well-being of the country, for the prevention of disorder or crime, for the protection of health and morals, or for the protection of the rights and freedoms of others."

In 1994, the European Court of Human Rights expounded that noxious emissions and other serious impacts of environmental degradation may infringe upon a person's right to privacy. In *Lopez Ostra v. Spain*, the Court found that public authorities must take necessary measures, specifically engaging in a process that balances individual privacy interests and community interests, to protect the right to private life.

Ten years later, the European Court of Human Rights again found that severe environmental pollution can affect an individual's well-being and interfere with a person's right to privacy, regardless of whether or not the pollution caused serious health impacts. The 2004 decision, *Taskin et al v. Turkey*, addressed the impact of a gold mine's cyanidation operating processes, which contaminated groundwater and destroyed local flora and fauna in nearby villages in the district of Bergama. The Court found that the Turkish Government neither heeded or disclosed previous judicial decisions that instructed the mining operation to cease, and therefore deprived applicants of procedural guarantees necessary to protect their right to privacy.

Toxic chemicals permeate many aspects of human lives - from where we live, to where we work; from what we eat to our water sources; from our health to our privacy. Their influence has a more profound negative impact on poorer communities, and in States with less regulatory structures in place to prevent excessive release.

A rights-based approach to redressing the impacts of toxins is a valid means of assuring global standards industry compliance in the manufacture, release, sale, trade and disposal of toxic chemicals. For the time being, chemical use in products and processes helps to prop up many local and State economies. Still, there must be fair consideration for human health and well-being in spite of possible economic loss. *(For some select cases, see Annex 1: Select Cases - Chemicals and Human Rights)*

Using international hard and soft law mechanisms can help to bolster legal arguments to redress the deleterious impacts of chemicals to the environment and human health, as well as prompt governments and business to diligently consult with and inform communities of the potential threat that chemicals may have on their standard of life. In this regard, a rights-based approach can be used as both a prophylactic tool to curb potential hazards from chemicals, as well as an accountability mechanism when harms do occur.

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