

CASE

COMUNIDAD DE LA OROYA

Vs.

PERÚ

INTER-AMERICAN COURT OF HUMAN RIGHTS

**AMICUS CURIAE BRIEF
OF THE UNITED NATIONS SPECIAL RAPPOREUR
ON HUMAN RIGHTS AND THE ENVIRONMENT**

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I. Identity and interest of the Amicus

1. I, David R. Boyd, have prepared this amicus curiae brief to the Inter-American Court of Human Rights in my role as the United Nations Special Rapporteur on the human rights obligations related to the enjoyment of a safe, clean, healthy, and sustainable environment.¹ I was appointed to this position by the Human Rights Council on 1 August 2018, under Resolution 37/8 and my mandate was renewed for a second three-year term in March 2021 by Human Rights Council Resolution 46/7. This voluntary position forms part of the UN's special procedures, experts selected from across the world to contribute to the fulfilment of human rights in areas related to their professional expertise.

2. I am also a professor at the University of British Columbia in Canada, jointly appointed in the Institute for Resources, Environment and Sustainability and the School of Public Policy and Global Affairs. I have worked as an environmental lawyer for 25+ years, served as an advisor to many governments on environmental policy, constitutions, and human rights, and published nine books and more than 100 articles, reports, and book chapters. I have extensive expertise in comparative constitutional law, including books (e.g., *The Environmental Rights Revolution*, 2012), articles (e.g., *The Constitutional Right to a Healthy Environment*, 2012), and book chapters (e.g., *Catalyst for Change: Evaluating Forty Years of Experience in Implementing the Right to a Healthy Environment*, 2019).

3. In brief, my mandate as Special Rapporteur is to:

- Study human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable environment.
- Conduct country visits and promote good practices relating to the use of human rights in environmental policy making.
- Identify challenges and obstacles to the full realization of human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable environment.
- Provide reports annually to both the UN Human Rights Council and the UN General Assembly on the results of the foregoing work.

4. In March 2019, I presented a report to the Human Rights Council on the impacts of air pollution on human rights and the associated State obligations, with a particular focus on the right to breathe clean air as a component of the right to a healthy environment.² In March 2022, I submitted a report to the Human Rights Council on the impacts of toxic substances and contaminated sites, focused on the right to live, work, study and play in

¹ See <https://www.ohchr.org/en/special-procedures/sr-environment>.

² A/HRC/40/55. Report of the Special Rapporteur. Issue of human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable environment, 8 January 2019.

non-toxic environments as an element of the right to a healthy environment.³ Copies of these reports (Annex I and Annex II, respectively) are included with this brief because of their relevance to the present case.

5. I am submitting an amicus brief in this particular case because of its global and regional importance. La Oroya is a notorious example of a “sacrifice zone”, an area where profit and private interests have been prioritized over public health, human rights and the local environment. Air pollution is the leading environmental cause of premature mortality globally, contributing to seven million premature deaths annually, including the deaths of more than 600,000 young children.⁴ Lead, the heavy metal, is one of the most devastating and well-studied neurotoxins, capable of inflicting irreversible impacts on the developing brains of infants and children.⁵ Elevated levels of air pollution, lead contamination and exposure to other toxic substances such as arsenic and cadmium at La Oroya have robbed generations of Peruvian children of their rights, their health and their future. To the best of my knowledge, this is the first contentious case in which the Court has the opportunity to address the obligations related to the right to a healthy environment in the context of air pollution and toxic substances.

6. My intention is to assist the Court in developing its jurisprudence by providing an expert perspective on relevant international human rights law and international environmental law. Therefore, my submissions in this Amicus address the following topics:

- Relevant factual considerations related to La Oroya
- The right to a healthy environment and its procedural and substantive elements, with particular attention to clean air, non-toxic environments, and the key principles guiding the interpretation of these rights.
- The special impact of environmental harm on the rights of children.
- The State’s obligations to prevent and redress environmental damage and provide access to justice with effective remedies.

7. The analysis is intended to assist this Court in interpreting the Government of Peru’s obligations to respect, protect and fulfil the right to a clean, healthy, and sustainable environment. As the Supreme Court of Mexico stated in a 2020 decision, courts are obligated “to ensure that the authorities comply with human rights, such as the right to a healthy environment, so that these fundamental rights have a real impact on our country and are not reduced to mere ideals or good intentions.”⁶

³ A/HRC/49/53. Report of the Special Rapporteur. Issue of human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable environment, 12 January 2022.

⁴ World Health Organization, 2022. Air Pollution. https://www.who.int/health-topics/air-pollution#tab=tab_2

⁵ World Health Organization, 2022. Lead poisoning: Key facts. <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.

⁶ Second Chamber of the Supreme Court of Mexico, Amparo 610/2019, 22 January 2020.

II. Brief summary of factual considerations

8. The La Oroya Metallurgical Complex began operating in 1922, comprised of smelters, refineries and related equipment that process poly-metallic minerals into lead, copper, zinc, and other metals, including silver and gold. The Complex generated vast quantities of air, water, and soil pollution over the course of nearly a century of operations. Of particular concern, because of their major consequences for human and ecological health, are the heavy metal lead, sulphur dioxide emissions, and fine particulates (also known as PM_{2.5}).

9. As early as the 1920s, concerns were raised about pollution from the Complex killing livestock and harming the health of people living in nearby communities. Dozens of claims were filed seeking compensation for damages caused by emissions from the La Oroya Complex. Peru's President during the 1920s, Augusto Leguia, repeatedly acknowledged the environmental problems caused by the Complex in speeches to the National Congress.

10. In the mid-1990s, a report prepared for the Government of Peru found the following: severe air pollution from chimneys at the Complex; 96 percent of liquid effluent discharged from the Complex into the Yauli and Mantaro Rivers contained lead in excess of permissible limits; and pervasive lead contamination of the community that was "extremely dangerous".⁷ A 1994 article published in Newsweek described the La Oroya Complex as "a vision from hell".⁸

11. Recent scientific studies conclude that the La Oroya region is still extremely contaminated with industrial pollutants. High levels of lead are found in the soil, in grasses and other plants, in livestock and in milk produced by cows.⁹ Scientists concluded that locally produced milk is unfit for human consumption and that remediation of soils in the region is critically needed.¹⁰

12. Generations of children in La Oroya have suffered extremely elevated levels of lead in their blood, a leading indicator of exposure and a risk factor for a range of adverse health consequences.¹¹ According to the World Health Organization, "Young children are particularly vulnerable to the toxic effects of lead and can suffer profound and permanent adverse health impacts, particularly on the development of the brain and nervous system. Lead also causes long-term harm in adults, including increased risk of high blood pressure and kidney damage. Exposure of pregnant women to high levels of lead can cause

⁷ Centromin, *Preliminary Environmental Evaluation Monitoring Report on Water and Air Quality and Emissions (March 1994 to February 1995)*, March 1995.

⁸ Corinne Schmidt, "How Brown Was My Valley", *Newsweek*, April 18, 1994.

⁹ Chirinos-Peinado D, Castro-Bedriñana J, García-Olarte E, Quispe-Ramos R, Gordillo-Espinal S. Transfer of lead from soil to pasture grass and milk near a metallurgical complex in the Peruvian Andes. *Transl Anim Sci.* 2021 Jan 13;5(1):txab003. doi: 10.1093/tas/txab003.

¹⁰ *Ibid.*

¹¹ B. Fraser, 2009. La Oroya's legacy of lead. *Environ Sci Technol.* Aug 1;43 (15): 5555-7.

miscarriage, stillbirth, premature birth and low birth weight.”¹² Infants in La Oroya are born “pre-polluted” because their mothers have suffered from elevated exposure to lead and pass this toxic burden to their newborns.¹³

III. The right to a clean, healthy, and sustainable environment

13. It has long been recognized that a healthy environment is a prerequisite for the enjoyment of many human rights, including the rights to life, the highest attainable standard of physical and mental health, physical integrity, food, water, sanitation, housing, and an adequate standard of living, among others.¹⁴ The obligations of States to respect, protect and fulfil human rights apply in the environmental context no less than in any other.¹⁵ At the same time, the exercise of human rights, including rights to freedom of expression and association, to education and information, and to participation and effective remedies, is vital to the protection of the environment.¹⁶

14. The focus of this amicus is on the right to a clean, healthy, and sustainable environment and the associated State obligations in the context of air pollution and the release of toxic substances. Under the Inter-American human rights system, the right to a healthy environment is established expressly in Article 11 of the Protocol of San Salvador:

1. Everyone shall have the right to live in a healthy environment and to have access to basic public services.
2. The States Parties shall promote the protection, preservation, and improvement of the environment.

15. The right to a healthy environment is recognized explicitly in the domestic laws of all Latin American States and at least 80 percent of UN Member States,¹⁷ as well as the Regional Agreement on Access to Information, Public Participation and Justice in

¹² World Health Organization, 2022. Lead poisoning: Key facts. <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.

¹³ Castro-Bedriñana J, Chirinos-Peinado D, Ríos-Ríos E. Niveles de plomo en gestantes y neonatos en la ciudad de la Oroya, Perú [Lead levels in pregnant women and newborns in la Oroya City, Peru]. *Rev Peru Med Exp Salud Publica*. 2013 Jul;30(3):393-8.

¹⁴ Inter-American Court of Human Rights, Advisory Opinion OC-23/17. See also Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy, and Sustainable Environment, December 2013 (A/HRC/25/53).

¹⁵ *Ibid.*

¹⁶ A/HRC/37/59. This link is also emphasized in the Escazú Agreement. Article 1 of the Escazú Agreement sets out the aim of “the full and effective implementation in Latin America and the Caribbean of the rights of access to environmental information, public participation in the environmental decision-making process and access to justice in environmental matters ... contributing to the protection of the right of every person of present and future generations to live in a healthy environment and to sustainable development”. The Escazú Agreement has been ratified by 13 states across Latin America and the Caribbean, entering into force in 2021. Peru has signed, but not ratified, the Agreement.

¹⁷ A/HRC/43/53. Report of the Special Rapporteur. Issue of human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable environment, 14 February 2020. See Annex VII: Recognition of the right to a healthy environment in constitutions, legislation and treaties—Latin America and Caribbean Region.

Environmental Matters in Latin America and the Caribbean (Escazú Agreement), the United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters (Aarhus Convention), the American Declaration on the Rights of Indigenous Peoples, the African Charter on Human and Peoples' Rights, the Association of South East Asian Nations Human Rights Declaration, and the Arab Charter on Human Rights.¹⁸ Peru, in 1979, was the first nation in the Americas to incorporate the right to a healthy environment in its constitution.¹⁹

16. In 2021, the United Nations Human Rights Council adopted a resolution recognizing, for the first time at the global level, the right to a clean, healthy, and sustainable environment.²⁰ In 2022, the United Nations General Assembly adopted a similar resolution, confirming that this is a universal human right.²¹ Peru supported both resolutions as a co-sponsor, and voted in favour of the General Assembly resolution.

17. The right to a healthy environment has been the subject of extensive judicial interpretation across the world by regional and national courts, including the authoritative Advisory Opinion 23/17 produced by the Inter-American Court. This Court stated unequivocally that “Environmental degradation may cause irreparable harm to human beings; thus, a healthy environment is a fundamental right for the existence of humankind.”²² Thus, this Court has recognized that the right is protected not only by the Protocol of San Salvador, but implicitly guaranteed under Article 26 of the American Convention on Human Rights.²³ The Advisory Opinion also clarified that the right to a healthy environment is a unique, autonomous right that “protects nature and the environment, not only because of the benefits they provide to humanity or the effects that their degradation may have on other human rights, such as health, life or personal integrity, but because of their importance to the other living organisms with which we share the planet that also merit protection in their own right.”²⁴

18. The African Commission on Human and Peoples' Rights produced a groundbreaking decision in 2001, concluding that air pollution caused by the oil industry (as well as water and soil pollution) violated the Indigenous Ogoni people's right to a healthy environment under the African Charter (Article 24). The Commission determined that Governments have clear obligations under Article 24 “to take reasonable and other measures to prevent pollution and ecological degradation, to promote conservation, and to secure an ecologically sustainable development and use of natural resources”.²⁵

¹⁸ Inter-American Court of Human Rights, Advisory Opinion OC-23/17 on the “Environment and Human Rights”,

¹⁹ D.R. Boyd, 2011, *The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights and the Environment*, University of British Columbia Press, p. 63.

²⁰ A/HRC/RES/48/13.

²¹ A/RES/76/300.

²² Advisory Opinion OC-23/17, para. 59.

²³ *Ibid*, para. 57.

²⁴ *Ibid*, para 62.

²⁵ *African Commission on Human and Peoples' Rights, Social and Economic Rights Action Centre and Centre for Economic and Social Rights v. Nigeria*, Comm. No. 155/96, para. 52.

19. The European Court of Human Rights has repeatedly concluded that air pollution and releases of toxic substances can violate human rights protected by the European Convention including the right to life (Article 2), the right to private and family life and the home (Article 8). Relevant cases have involved air pollution and mining in Italy, Russia, Turkey and the Ukraine.²⁶ For example, a case from Turkey involved air pollution from coal-fired power plants, which led Turkish courts to conclude that the right to a healthy environment was violated. However, the domestic court decisions had not been implemented or enforced by the State. The European Court of Human Rights determined that Turkey had violated the European Convention on Human Rights.²⁷

20. In addition, the European Social Committee of Social Rights, which adjudicates cases alleging violations of the European Social Charter setting out social and economic rights, ruled that by failing to address air pollution caused by coal mining, the Government of Greece violated the right to a healthy environment.²⁸

21. Based on four decades of domestic and international jurisprudence, the right to a healthy environment includes a set of procedural and substantive elements. Procedural elements include access to information, public participation in decision-making, and access to justice.²⁹ These three procedural rights are widely recognized in international law, including the Rio Declaration on Environment and Development.³⁰ Since then, they have been codified in the Aarhus Convention and Escazú Agreement. Empirical research demonstrates that domestic protection of procedural environmental rights is positively associated with environmental justice outcomes.³¹

22. Substantive elements of the right to a clean, healthy and sustainable environment include clean air,³² safe and sufficient water,³³ healthy and sustainably produced food,³⁴ healthy ecosystems and biodiversity,³⁵ a safe climate,³⁶ and non-toxic environments where people can live, work, learn and play.³⁷ This Court clarified that the autonomous right to a healthy environment is distinct from other human rights in that it “protects the components

²⁶ European Court of Human Rights, *Cordella and others v. Italy*, no. 54413/13 and no. 54264/15. *Fadeyeva v. Russia*, no. 55724/00, 2005. *Okyay and others v. Turkey*, Application No. 36220/97, Final Judgment, 12 October 2005. *Grimkovskaya v. Ukraine*, No. 38182/03, 21 July 2011.

²⁷ European Court of Human Rights, *Okyay and others v. Turkey*, Application No. 36220/97, Final Judgment, 12 October 2005.

²⁸ *Marangopoulos Foundation for Human Rights v Greece*, Complaint No. 30/2005 (6 December 2006).

²⁹ Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy, and Sustainable Environment, A/HRC/37/59 (24 January 2018), available at <http://undocs.org/A/HRC/37/59>.

³⁰ Rio Declaration, Principle 10.

³¹ Joshua C. Gellers & Chris Jeffords, *Toward Environmental Democracy? Procedural Rights and Environmental Justice*, 18 *Global Env. Pol.* 99 (2018).

³² A/HRC/40/55.

³³ A/HRC/46/28.

³⁴ A/76/179.

³⁵ A/75/161.

³⁶ A/74/161.

³⁷ A/HRC/49/53.

of the environment, such as forests, rivers and seas, as legal interests in themselves, even in the absence of the certainty or evidence of a risk to individuals.³⁸

23. Advisory Opinion 23/17 indicates that “the Court may avail itself of the principles, rights and obligations of international environmental law, which, as part of the international *corpus iuris* make a decisive contribution to establishing the scope of the obligations under the American Convention in this regard.”³⁹ Similarly, the UN Human Rights Committee has stated that State obligations under international human rights law should be informed by international environmental law, and vice versa.⁴⁰ A number of key principles, drawn from both international human rights law and international environmental law, have been used to guide the interpretation and application of the right to a clean, healthy, and sustainable environment, including equality, non-discrimination, prevention, precaution, progressive realization, non-retrogression and the polluter pays principle. These principles will be examined in detail later in this amicus (paras 57 to 74).

24. Additional guidance for the interpretation of the right to a clean, healthy, and sustainable environment is provided by the Framework Principles on Human Rights and the Environment: The Main Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy, and Sustainable Environment (the “Framework Principles”) published by the previous Special Rapporteur on Human Rights and the Environment in 2018.⁴¹ Although not legally binding *per se*, the Framework Principles are derived from international treaties and binding decisions from human rights tribunals, as well as other human rights bodies. A copy of the Framework Principles is included as Annex III.

25. The Framework Principles on human rights and the environment set out three categories of obligations on States under international human rights law:⁴²

- Procedural obligations that include the duties to provide information, facilitate public participation and provide access to remedies;
- Substantive obligations, including the duty to regulate private actors; and
- Heightened obligations to those in vulnerable situations.

26. The following Framework Principles are particularly relevant to the pervasive air pollution and high levels of toxic contamination in La Oroya:

³⁸ Advisory Opinion OC-23/17, para. 62. See also Supreme Court of Mexico, Primera Sala, Amparo en Revision 54/2021, 9 February 2022, paras 155-193.

³⁹ Advisory Opinion OC-23/17, para. 55.

⁴⁰ UN Human Rights Committee, General comment No. 36 (2018) on article 6 of the International Covenant on Civil and Political Rights, on the right to life, para. 62.

⁴¹ United Nations, Human Rights Council, Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy, and Sustainable Environment, A/HRC/37/59 (24 January 2018), available at <http://undocs.org/A/HRC/37/59>.

⁴² *Ibid.*

- Framework Principle 1 “States should ensure a safe, clean, healthy, and sustainable environment in order to respect, protect and fulfill human rights.”
- Framework Principle 7 “States should provide public access to environmental information by collecting and disseminating information and by providing affordable, effective and timely access to information to any person upon request.”
- Framework Principle 9 “States should provide for and facilitate public participation in decision-making related to the environment and take the views of the public into account in the decision-making process.”
- Framework Principle 10 “States should provide for access to effective remedies for violations of human rights and domestic laws relating to the environment.”
- Framework Principle 11 “States should establish and maintain substantive environmental standards that are non-discriminatory, non-retrogressive and otherwise respect, protect and fulfil human rights.”
- Framework Principle 13 “States should ensure the effective enforcement of their environmental standards against public and private actors.”
- Framework Principle 14 “States should take additional measures to protect the rights of those who are most vulnerable to, or at particular risk from environmental harm, taking into account their needs, risks and capacities.”

A. Clean air

27. Clean air is a fundamental component of the right to a clean, healthy, and sustainable environment.⁴³ Exposure to air pollution causes a wide range of adverse health effects including respiratory illnesses and infections, heart disease, stroke, lung cancer and negative birth outcomes (e.g., pre-term birth and low birth weight).⁴⁴ A growing body of evidence links air pollution to other health problems including cataracts, ear infections, the onset of asthma in children, chronic deficits in lung function, stunting, diabetes, childhood obesity, developmental delays, reduced intelligence, and neurological disorders afflicting both children and adults.⁴⁵ Air pollution also harms wildlife and ecosystems.

28. The foreseeable adverse effects of poor air quality on the enjoyment of human rights give rise to extensive duties of States to take immediate action to protect against those harmful effects. As the United Nations High Commissioner for Human Rights stated at the First Global Conference on Air Pollution and Health, held in 2018, “there can be no doubt

⁴³ A/HRC/40/55. Report of the Special Rapporteur. Issue of human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable environment, 8 January 2019.

⁴⁴ World Health Organization (WHO), *Burning Opportunity: Clean Household Energy for Health, Sustainable Development, and Wellbeing of Women and Children* (Geneva, 2016).

⁴⁵ A/HRC/40/55, para. 23.

that all human beings are entitled to breathe clean air”.⁴⁶ The importance of taking concrete and effective steps to address air pollution was expressed by UN human rights experts as: “A threat like this can no longer be ignored. States have a duty to prevent and control exposure to toxic air pollution and to protect against its adverse effects on human rights.”⁴⁷

29. Not all air pollution violates the right to a healthy environment. The right does not entitle rights-holders to absolutely pristine air quality. However, if air quality fails to meet international, national, or local air quality standards, or if there is a risk of serious harm to human health, there is a *prima facie* violation of the right to a healthy environment. When the failure to meet air quality standards persists over a lengthy period of time, the likelihood of the right to a healthy environment being violated increases. Air quality standards should be based on the best available science, maximize protection for human health, and be consistent with international norms, such as the guidelines published by the World Health Organization.⁴⁸

30. Air pollution affects everyone, yet the burden of disease caused by poor air quality is inequitably distributed, with certain vulnerable populations bearing a disproportionate share of the impacts. Among the most severely harmed are children, women, people living in poverty, elderly persons, people with pre-existing health conditions such as respiratory conditions or heart disease, and people who fall into more than one of these categories, as is the case in La Oroya.

31. The overwhelming majority of illnesses and premature deaths caused by air pollution affect people in low- and middle-income countries, including Peru. Poverty exacerbates the impacts of air pollution through lack of access to information, limited access to health care, a lack of political power to demand remedial action, and the cumulative impacts of inter-connected physical, social, economic and environmental risk factors. In addition, poor air quality inflicts extensive harm on workers.⁴⁹

32. With regard to air pollution, the World Health Organization reports that the average annual level of fine particulate matter (PM_{2.5}) in Peru is 30.46 micrograms per cubic meter, six times higher than the recommended limit.⁵⁰ Research shows that in 2019 there were 11,400 deaths in Peru attributable to air pollution, including 8,910 deaths caused by fine particulate matter, 2,440 deaths caused by household air pollution from solid fuels, and 92 deaths caused by ambient ozone pollution.⁵¹

⁴⁶ A/HRC/40/55, para. 44.

⁴⁷ UN Office of the High Commissioner of Human Rights (2017) *Toxic air pollution: UN rights experts urge tighter rules to combat “invisible threat”*.

⁴⁸ World Health Organization, 2021, *WHO global air quality guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide*.

⁴⁹ Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, A/HRC/39/48 and Corr.1.

⁵⁰ World Health Organization Platform on Air Quality and Health. 2022. Ambient Air Quality Database. See <https://www.who.int/airpollution/data/cities/en/>

⁵¹ Health Effects Institute (2021) *State of Global Air 2020*. Data Source: Global Burden of Disease Study 2019. See <https://www.stateofglobalair.org/data/#/health/plot>

33. Drawing on international human rights law and domestic constitutional law regarding implementation of the right to a healthy environment, the Special Rapporteur's 2019 report to the Human Rights Council described seven key steps that States must take to fulfil their obligations related to the right to a healthy environment in the context of air pollution, namely:

1. Monitor air quality and impacts on human and ecosystem health.
2. Identify the main sources of air pollution.
3. Make information publicly available, including public health advisories.
4. Establish air quality legislation, regulations, standards and policies.
5. Develop air quality action plans at the local, national and, if necessary, regional level.
6. Implement the air quality action plan and enforce the standards.
7. Evaluate progress and, if necessary, update the plan and standards to ensure that human and ecosystem health are protected.⁵²

These seven steps, each of which is linked to the due diligence obligations described in this Court's Advisory Opinion 23/17, are described in greater detail below.

34. At each stage, States must ensure that the public is fully informed and has an opportunity to participate in decision-making processes. Additional effort should be made to engage with women, children, Indigenous peoples, Afro-descendants, minorities, and others in potentially vulnerable situations whose voices are too often silenced in environmental policy processes. Special attention also must be paid to environmental human rights defenders.

1. Monitoring air quality and health effects

35. States must establish networks and programmes to monitor air quality and health effects, particularly in urban areas and other regions known to suffer from poor air quality, such as La Oroya. Independent and regular monitoring is a prerequisite to fulfilling the State's obligation to provide information to the public and is also essential to informed policy-making.

2. Identifying the main sources of air pollution

36. Reducing the adverse health impacts and premature deaths attributable to air pollution and fulfilling the right to a clean, healthy, and sustainable environment requires understanding the types of pollution and the major contributing sources. This is critical for

⁵² A/HRC/40/55, paras. 61-77.

identifying the highest priority actions, as well as the most effective and equitable policies for controlling emissions to protect public health, human rights and the environment.

3. *Public reporting on air quality*

37. In addition to systematically collecting air quality information, States must share this information in a timely, accessible way, educate the public about the health risks posed by poor air quality and have systems in place to provide warnings when pollution poses an acute health threat, particularly for vulnerable populations. This obligation is a core component of the right of access to environmental information, one of the cornerstone procedural rights arising from the right to a clean, healthy and sustainable environment.⁵³ The obligation to share environmental information with the public has been confirmed by this Court as well as the European Court of Human Rights.⁵⁴ Every person is entitled to safely and meaningfully participate in, and contribute to, the development, implementation and evaluation of laws, policies, programs and other actions that have implications for air quality and the environment. Participation empowers marginalized communities to effect change, enhances the effectiveness and sustainability of interventions, and increases the possibility of social transformations.

4. *Establishing air quality legislation, regulations and standards*

38. States have an obligation to “establish and maintain substantive environmental standards that are non-discriminatory, non-retrogressive and otherwise respect, protect and fulfil human rights”.⁵⁵ The World Health Organization has published the most authoritative and comprehensive international guidelines for ambient air quality as well as indoor air quality, which every State should incorporate as legally binding national standards.⁵⁶

39. Peru’s National Air Quality Standards are weaker than the World Health Organization recommendation for both the maximum average annual concentration of the key pollutants of fine particulate matter (PM_{2.5}) and sulphur dioxide.⁵⁷ Air quality standards should protect the most vulnerable members of society, in part by applying the precautionary principle and using adequate margins of safety.⁵⁸ For example, national air

⁵³ See Principle 10 of the Rio Declaration on Environment and Development. See also Article 6(1) of the Escazú Agreement, requiring each party to “collect, publicize and disseminate environmental information relevant to their functions in a systematic, proactive, timely, regular, accessible and comprehensive manner”.

⁵⁴ Inter-American Court of Human Rights, *Claude-Reyes v Chile*, Judgment, Series C No 151, 19 September 2006. European Court of Human Rights, *Guerra and Others v Italy*, Judgment, App no 14967/89, 19 February 1998. European Court of Human Rights, *Association Burestop 55 and Others v France*, Judgment, App no 56176/18, 1 July 2021.

⁵⁵ A/HRC/37/59, annex, framework principle 11.

⁵⁶ World Health Organization. (2021). *WHO global air quality guidelines: particulate matter (PM_{2.5} and PM₁₀), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide*. World Health Organization. (2014). *WHO Guidelines for Indoor Air Quality: Household Fuel Combustion*.

⁵⁷ World Health Organization, 2021, *ibid*. Decreto Supremo No. 003-2017-MINAM, Aprueban Estándares de Calidad Ambiental (ECA) para Aire y establecen Disposiciones Complementarias.

⁵⁸ This Court has found that states have an obligation to apply the precautionary principle “in cases where there are plausible indications that an activity could result in severe and irreversible damage to the environment, even in the absence of scientific certainty. See Advisory Opinion OC-23/17, para. 180.

quality standards must take into consideration the best interests and unique vulnerability of children.⁵⁹ The weakness of national air quality standards in Peru indicates a failure to fulfil this fundamental human rights obligation, with potentially devastating impacts upon the health of children.

5. Air quality action plans

40. States must develop air quality action plans that identify the most important, equitable and effective measures that can be implemented to improve air quality, particularly for vulnerable populations and regions suffering from poor air quality. States have discretion to determine which air quality policies and programmes are best suited to their particular circumstances. However, they have obligations, to the maximum of their available resources, to implement concrete and effective measures to prevent increases in air pollution, improve air quality and fulfil the right to breathe clean air. The need for immediate action is particularly urgent when there is clear and compelling evidence of a public health emergency, as recognized in the case of La Oroya by the Constitutional Court of Peru back in 2006. Some human rights obligations, such as non-discrimination and non-retrogression, are of immediate effect. The principle of non-retrogression means States must not weaken air quality regulations, standards or policies.

41. Peru violated the principle of non-retrogression in 2017 by changing the national 24-hour standard for sulphur dioxide from 20 micrograms per cubic meter to 250 micrograms per cubic meter and doubling the national 24-hour standard for fine particulate matter (PM_{2.5}) from 25 micrograms per cubic meter to 50 micrograms per cubic meter.⁶⁰

6. Implementing and enforcing air quality rules

42. Environmental laws, regulations and standards are ineffective if they exist only on paper and are neither implemented nor enforced. Therefore, States must ensure air quality programs and policies are implemented, and standards enforced against public and private actors.⁶¹ Sufficient human, financial and technical resources must be allocated to government agencies responsible for implementing and enforcing the rules, and institutional capacity should be increased over time. There appears to be a lack of enforcement of air quality regulations in the La Oroya region, as levels of air pollution have consistently exceeded even the weak national standards.

43. If poor air quality poses a threat to the right to a clean, healthy, and sustainable environment, people must have affordable and timely access to justice, with effective remedies. States are obligated to ensure the availability of accessible, affordable and timely judicial or non-judicial processes. The effectiveness of remedies depends, inter alia, on the

⁵⁹ Convention on the Rights of the Child, art. 3 (1).

⁶⁰ Decreto Supremo No. 003-2017-MINAM, Aprueban Estándares de Calidad Ambiental (ECA) para Aire y establecen Disposiciones Complementarias.

⁶¹ A/HRC/37/59, annex, framework principle 12.

subsequent implementation of court orders. In the case of La Oroya, the government of Peru failed to fully implement the 2006 decision of the Constitutional Court.⁶²

7. *Evaluating and revising air quality standards and plans*

44. An essential element of efforts to improve air quality is to evaluate progress (or the lack thereof) on a regular basis. Air quality policies, standards and plans should be strengthened over time to increase protection for the environment, human health, and human rights. New scientific evidence and public participation must also be incorporated into the review and revision processes. A State's national standards should be revised to reflect the updated WHO air quality guidelines, which has not been done in Peru.

8. *Failure to follow the seven steps*

45. A failure to fulfil any one of these seven obligations can constitute a violation of the right to live in a clean, healthy, and sustainable environment. For example, the Constitution of Mexico, like the Constitution of Peru,⁶³ provides that every person “has the right to a healthy environment for his/her own development and well-being” (Article 4). The National Human Rights Commission of Mexico conducted an extensive investigation into air quality in Mexico and the actions of the federal, state and local governments to address air pollution.⁶⁴ The Commission determined that there were systemic and ongoing violations of the constitutional right to a healthy environment, including:

- an inadequate air quality monitoring system;
- failure to update air quality standards;
- lack of timely information provided to the public about air quality; and
- failure to take effective actions to reduce air pollution and ensure clean air.

Similar conclusions were reached by the Constitutional Court of Peru in its decision about the pollution and public health crisis in La Oroya.⁶⁵

B. Non-toxic environments

46. Non-toxic environments, where people can safely live, work, learn and play, represent a fundamental component of the right to a clean, healthy, and sustainable environment.⁶⁶ Exposure to toxic substances raises the risks of acute poisoning, stroke, respiratory illnesses, cancer, adverse effects on the immune, endocrine, and reproductive

⁶² Pablo Miguel Fabián Martínez et al. v. Ministry of Health et al, 2006, Second Chamber of the Constitutional Court of Peru, 12 May 2006.

⁶³ Article 2(22) of the Constitution of Peru protects the right of each person “to a balanced and appropriate environment for the development of his life”.

⁶⁴ Comisión Nacional de los Derechos Humanos. General recommendation 32/2018, paras 445-459. See https://www.cndh.org.mx/sites/default/files/doc/Recomendaciones/Generales/RecGral_032.pdf

⁶⁵ Pablo Miguel Fabián Martínez et al. v. Ministry of Health et al, 2006, Second Chamber of the Constitutional Court of Peru, 12 May 2006.

⁶⁶ A/HRC/49/53, Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy, and sustainable environment. The right to a clean, healthy, and sustainable environment: non-toxic environment. 12 January 2022.

systems and birth defects.⁶⁷ One quarter of the total global burden of disease is attributed to preventable environmental risk factors, the overwhelming majority of which involve exposure to toxic substances and pollution.⁶⁸

47. While all humans are exposed to toxic substances, there is compelling evidence that the burden of contamination falls disproportionately upon the shoulders of individuals, groups and communities that are already enduring poverty, discrimination, and systemic marginalization.⁶⁹ Children, women, minorities, migrants, Indigenous peoples, older persons, and persons with disabilities are potentially vulnerable, for a variety of economic, social, cultural, and physical reasons.⁷⁰ Moreover, workers are at risk because of elevated exposures on the job, poor working conditions, limited knowledge about chemical risks and lack of access to health care.⁷¹

48. The most heavily polluting and hazardous facilities, including smelters such as the La Oroya Complex, open-pit mines, petroleum refineries, chemical plants, coal-fired power stations, oil and gas fields, steel plants, garbage dumps and hazardous waste incinerators, as well as clusters of these facilities, tend to be located in close proximity to poor and marginalized communities.⁷²

49. The phenomenon of poor and marginalized communities being more heavily affected by pollution is a type of discrimination called environmental injustice.⁷³ Poor, vulnerable, and marginalized communities also are less likely to enjoy access to environmental information, to participate in decision-making related to the environment or to have access to justice and effective remedies when their rights are jeopardized or violated by toxic substances and pollution.⁷⁴

50. When the exposure to toxic substances and pollution becomes extreme in a specific community, the area can be described as a “sacrifice zone”.⁷⁵ This phrase originated in the Cold War era, when it was used to describe areas rendered uninhabitable by nuclear experiments, conducted by the United States, the Soviet Union, France and the United Kingdom, that caused high and lasting levels of dangerous radiation.⁷⁶

51. Today, a sacrifice zone can be understood to be a place where residents suffer devastating physical and mental health consequences and human rights violations as a

⁶⁷ *Ibid*, para. 12.

⁶⁸ Annette Prüss-Ustün and others, *Preventing Disease through Healthy Environments: A Global Assessment of the Burden of Disease from Environmental Risks* (Geneva, World Health Organization, 2016). See also A/HRC/49/53, Op. cit., para. 12.

⁶⁹ A/HRC/49/53, Op. cit., para. 21.

⁷⁰ *Ibid*.

⁷¹ *Ibid*.

⁷² *Ibid*, para. 28.

⁷³ *Ibid*, para. 22.

⁷⁴ *Ibid*, para. 25.

⁷⁵ Steve Lerner, *Sacrifice Zones: The Front Lines of Toxic Chemical Exposure in the United States* (Cambridge, Massachusetts, MIT Press, 2010).

⁷⁶ A/HRC/49/53, Op. cit., para.26.

result of living in pollution hotspots and heavily contaminated areas.⁷⁷ Sacrifice zones are the diametric opposite of sustainable development, harming the interests of present and future generations. The people who inhabit sacrifice zones are exploited, traumatized, and stigmatized.⁷⁸

52. The seven steps detailed earlier in the context of the State's obligations to address air pollution are equally relevant in the context of toxic substances. Thus, States must monitor human health and ecosystem health, identify main sources of toxic substances and human exposures to them, inform and engage the public, enact laws, regulations and standards, develop action plans, implement and enforce rules and evaluate progress. A State's failure to fulfil these obligations may constitute a violation of the right to a clean, healthy, and sustainable environment.

53. A relevant case in determining important legal principles applicable to sacrifice zones is the *Francisco Chahuan contra Empresa Nacional de Petróleos*⁷⁹ judgement from Chile. The case dealt with the notoriously polluted region of Quintero-Puchuncaví and the impact that the pollution had on the health and human rights of people living in those communities, especially children. Article 19(8) of the Constitution of Chile states that every person has "the right to live in an environment free of contamination." Chile's national human rights institution describes Quintero-Puchuncaví as a "zona de sacrificio", although this label is not used in the court's judgement.⁸⁰ The Supreme Court of Chile relied on the precautionary principle and the principle of prevention as guiding elements of its reasoning in concluding that air pollution in Quintero-Puchuncaví violated the right to a healthy, pollution-free environment and ordered the Government to take steps to address the problem.

54. The Supreme Court of Chile held that "economic development, such as that represented by the creation of Ventanas Industrial Complex, even when it legitimately aimed to improve the quality of life of people, including those who lived in Quintero, Ventanas and Puchuncaví, could not be implemented by ignoring or abandoning the conservation and protection of the environment, and could not compromise the expectations of future generations."⁸¹ This is tacit recognition that sacrifice zones cannot be reconciled with human rights obligations, even if there are purported economic benefits.⁸²

55. Similarly, the Colombia Constitutional Court emphasized the precautionary principle in relation to extreme environmental pollution in an Indigenous community that could be described as a sacrifice zone.⁸³ The specific case involved a lawsuit against a company that had, for decades, carried out open-pit coal mining less than two kilometers from the Indigenous reserve, generating vast emissions of particulate matter that led to

⁷⁷ *Ibid*, para. 27.

⁷⁸ *Ibid*, para. 29.

⁷⁹ *Francisco Chahuan et al. v. ENAP S.A.*, Case No. 5888-2019, Judgment, 28 May 2019.

⁸⁰ Instituto Nacional de Derechos Humanos, 2018, Informe Anual, capítulo 4, p. 145. See <https://bibliotecadigital.indh.cl/bitstream/handle/123456789/1173/Cap4.pdf?sequence=16&isAllowed=y>

⁸¹ *Francisco Chahuan et al. v. ENAP S.A.*, Case No. 5888-2019, Judgment, 28 May 2019, para. 34.

⁸² A/HRC/49/53, Op. cit, para. 74.

⁸³ Sentence T-614/19, Ninth Review Chamber of the Constitutional Court of Colombia, 16 December 2019.

community-wide respiratory issues, as well as vision and skin problems. Testing confirmed that the air in the vicinity of the reserve contained toxic substances including sulfur, chromium, copper, and zinc. The contamination caused by the company also damaged water sources and made surrounding soils unproductive, which disrupted community food practices.

56. In its judgement, the Colombia Constitutional Court found that widespread air pollution and toxic contamination caused by the mining company necessitated the application of the precautionary principle in order to protect the health and well-being of the community.⁸⁴ The Court ordered, in application of the precautionary principle, that the company, within one month, control its emissions of particulate matter to improve the air quality in the Provincial Indigenous Reservation. The Court also ordered the company, within one month, to implement the following measures to reduce the risk their operations posed to the Indigenous community: (a) exhaustive cleaning of carbon dust in the houses and wells of the reservation, as well as the surrounding vegetation; (b) reduce noise levels; (c) prevent water contamination by runoff; and (d) increase fire prevention efforts.⁸⁵ While the case does not explicitly refer to the contaminated community as a sacrifice zone, the seriousness of the pollution makes this description appropriate.

57. An interesting conclusion was also adopted in a concurring opinion in a case in Ecuador in which the Constitutional Court decided that vulnerable communities should not be “sacrificed” in the name of “development”.⁸⁶ In this case, the Constitutional Court analyzed Ecuador’s Decree 751, which permitted oil drilling in the buffer zone surrounding a protected area inside the Yasuni National Park. This zone was established for the Tagaeri-Taromenane Indigenous peoples who live in voluntary isolation. Decree 751 was ultimately found to be unconstitutional, as it was obtained without the consent of the Tagaeri-Taromenane.

C. Key principles guiding the interpretation of the right to a clean, healthy, and sustainable environment

58. As mentioned earlier, the interpretation of the right to a clean, healthy, and sustainable environment is guided by key principles drawn from both international human rights law and international environmental law, including equality, non-discrimination, prevention, precaution, progressive realization, non-regression and the polluter pays principle.

1. Equality and non-discrimination

59. Rights of equality and non-discrimination protected by foundational international human rights treaties are equally applicable in the context of the environment.⁸⁷ All human

⁸⁴ *Ibid*, p. 113.

⁸⁵ *Ibid*, p. 131.

⁸⁶ Judgement No. 28-19-IN/22 of the Constitutional Court of Ecuador. Concurrent Voting, Judge of Ramiro Avila Santamaria, p.38.

⁸⁷ See, for example, Article 1 of the American Convention on Human Rights.

beings are considered equal and entitled to their right to a clean, healthy, and sustainable environment without discrimination of any kind, such as race, colour, sex, ethnicity, age, language, religion, political or other opinion, national or social origin, disability, property, birth or other status. Priority must be given to fulfilling the rights of those who are marginalised, excluded and most strongly affected by environmental, social and economic inequality, particularly those facing multiple and intersecting forms of discrimination.⁸⁸

60. Human rights must be prioritized in budgets, and State policies must favour the vulnerable and marginalized to ensure no one is left behind and to reach to those who are furthest behind first.⁸⁹ The principle of non-discrimination requires States to address environmental injustices by prioritizing mitigation, adaptation, clean-up and restoration measures for disadvantaged communities in sacrifice zones who bear a disproportionate burden of the impacts of pervasive pollution and toxic contamination.⁹⁰

2. *Prevention and Precaution*

61. Prevention of environmental degradation and human rights violations is paramount. States should enact measures in the short-term to reduce pollution, with long-term objectives to achieve zero pollution, produce zero waste, and eliminate the production, use and release of toxic substances, except for essential uses in society.⁹¹ This Court clarified that for States to fulfil their human rights obligations, including those related to the right to a healthy environment, compliance with the duty of prevention requires the existence of a robust regulatory framework and a coherent system of supervision and oversight.⁹² The UN Human Rights Committee reached a similar conclusion.⁹³ States must prevent exposure by regulating industries, emissions, chemicals and waste management, and promote innovation and acceleration of safe substitutes.⁹⁴ States should enact legislation requiring businesses that contribute to air pollution, toxic substances and other forms of environmental degradation to conduct inclusive and rigorous human rights and environment due diligence.⁹⁵

62. Under international law, the precautionary principle is defined as “the lack of full scientific certainty should not be used to justify postponing effective and proportionate measures to prevent environmental harm, especially when there are threats of serious or irreversible damage”.⁹⁶ Application of the precautionary principle in the context of human rights obligations related to a healthy environment has been endorsed by the UN Human

⁸⁸ Working Group of Experts on People of African Descent, 2020, *Operational Guidelines on the inclusion of People of African Descent in the 2030 Agenda*.

⁸⁹ UN General Assembly, 2015. *Transforming our world: the 2030 Agenda for Sustainable Development*, A/RES/70/1.

⁹⁰ A/HRC/49/53, Op. cit.

⁹¹ A/HRC/49/53, Op. cit, para. 55.

⁹² Advisory Opinion 23/17, paras. 145-155.

⁹³ Human Rights Committee, 2019, *Portillo Cáceres et al. v. Paraguay*, CCPR/C/126/D/2751/2016.

⁹⁴ A/HRC/49/53, Op. cit.

⁹⁵ Special Rapporteur on human rights and the environment, 2022, *Essential Elements of Effective and Equitable Human Rights and Environmental Due Diligence Legislation*, Policy Briefing No. 3.

⁹⁶ Rio Declaration on Environment and Development. A/CONF.151/26 (Vol. I) General Assembly Distr. GENERAL 12 August 1992.

Rights Committee, the European Court of Human Rights and the Inter-American Court of Human Rights.⁹⁷ In the case of air pollution and toxic substances, actions should protect the most vulnerable members of society, in part by applying the precautionary principle and using adequate margins of safety. Governments must take into consideration the best interests of children as well.⁹⁸

63. Several courts in Latin America have applied the principles of prevention and precaution in analogous matters, and have adopted wide-ranging remedies.

64. For example, in Brazil, Observatório de Clima (OC), a network of civil society organizations filed a class action requesting that the National Climate Change Policy be updated to recognize the seriousness of climate change and ensure the reduction of greenhouse gas emissions. The Court partially granted the precautionary measures to (1) annul the public hearing previously held, (2) suspend the permitting procedure of the Nova Seival coal-fired power plant until certain irregularities are addressed (3) hold at least three public hearings, and (4) incorporate specific requirements in the terms of reference for the proposed coal-fired power plant, including the need to assess impacts on the environment and potential risks to public health.⁹⁹

65. In a case in Ecuador, the plaintiffs alleged that routine flaring of natural gas at oil wells in their communities was polluting the air.¹⁰⁰ The Court declared that the Ecuadorian State disregarded the right of the plaintiffs to live in a healthy and ecologically balanced environment. The Court also declared that the State had failed to prevent the polluting activity and thus the plaintiffs' rights to health and a healthy environment, especially by not promoting the use of environmentally clean technology and non-polluting and low-impact sources of energy.

66. The Court ordered the Ministry of Energy and Non-Renewable Natural Resources and the oil companies, *inter alia*, to (1) update their plan for the gradual and progressive elimination of gas flaring close to population centers within 18 months, (2) create an annual monitoring plan to verify the restoration of the natural environment surrounding where gas flaring is carried out, (3) establish a coordinated plan to evaluate the quality of water sources in the provinces of Sucumbios, Orellana, and Napo, and (4) conduct an investigation and medical-scientific study to ascertain the degree of impact of the hydrocarbon activities on the neighbouring population.

67. In Peru, a Municipality filed a lawsuit against the company Calquipa SAC alleging that the construction of their calcium carbonate (lime) processing plant created dust that caused respiratory illness and polluted local pastures and rivers. The Court found that there was currently no evidence to establish a link between health impacts and the plant, but

⁹⁷ Inter-American Court of Human Rights, Advisory opinion OC-23/17. Human Rights Committee, 2018, *General Comment 36 on the Right to Life*. European Court of Human Rights, *Tatar v. Romania*, judgment of 27 January 2009.

⁹⁸ Convention on the Rights of the Child, Art. 3. See also A/HRC/40/55. Op. cit, para. 71.

⁹⁹ Laboratório de Observatório de Clima v. Minister of Environment and Brazil. 7th Federal Environmental and Agrarian Court of the Judiciary Section of Amazonas, Brazil.

¹⁰⁰ Corte Provincial de Justicia de Sucumbios. Judgment Number 21201202000170.

ordered the State to (1) guarantee prompt and complete access to public information on investment projects, especially information that may be related to the possible endangerment of fundamental rights, (2) ensure that all major investment projects comply with the technical and legal standards required of them, and that the agreements reached with the companies, the State, or communities are fully complied with by all parties, (3) to control private powers and, within this framework, to enforce the rule of law, especially in cases in which constitutional rights have been violated.¹⁰¹

68. In a case from Colombia, the plaintiffs alleged that the transportation of coal was performed by a company without the minimum environmental security measures, resulting in emissions of coal dust and particulate matter.¹⁰² These pollutants contribute to, and exacerbate, respiratory conditions, heart disease and other medical problems. The coal dust also affected the plaintiffs' crops and water supplies, reducing productive capacity and harming the surrounding ecosystems.

69. The Court ordered the National Environmental Licensing Agency and the Regional Autonomous Corporation of La Guajira to implement on-site supervision on national, departmental, municipal, and local roads that transport coal from the Caypa mine to the Santa Marta port, and to monitor the company's environmental plans, programs, and emissions. Moreover, to coordinate with the extractors and transporters of the minerals the installation of barriers in critical dispersion sites of coal particles and the cleaning and collection of mineral material dispersed alongside roads and adjacent properties. It also ordered the government to perform studies on the effects of coal dust on human health.

70. Finally, in Costa Rica a person filed an amparo due to the emission of strong black smoke by a company named Numar.¹⁰³ This smoke harmed the health of a child who suffered from asthma. The Court found that there was a threat to the rights to health and a healthy environment because the Ministry of Health was ignoring the preventive function necessary for the protection of human health. The Court declared the appeal admissible and: (1) ordered the Minister of Health to immediately take the necessary measures to guarantee the appellant and the community effective compliance with the environmental management plans as per their legal powers, (2) indicated that if the Minister of Health does not comply with the above order, they will be committing the crime of disobedience and, per article 71 of the Law on Constitutional Jurisdiction, be imprisoned for three months to two years, or twenty to sixty days and a fine, and (3) ordered the State to pay costs, damages, and losses.

3. Progressive realization

71. The full and effective enjoyment of the right to a clean, healthy, and sustainable environment is subject to progressive realization, recognizing that in some low- and middle-income States it cannot be immediately fulfilled.¹⁰⁴ However it is vital to note that

¹⁰¹ Tribunal Constitucional. 04490-2014-PHC/TC.

¹⁰² Supreme Court of Justice. ID 494041, STC9813-2016.

¹⁰³ Constitutional Chamber of the Supreme Court of Justice. Resolution No. 00232-2009.

¹⁰⁴ A/HRC/40/55. Op. cit, para 73.

some specific obligations are of immediate effect, such as non-discrimination, non-retrogression and the requirement to take steps to advance the right.¹⁰⁵ While States have discretion in deciding which means are appropriate in light of available resources, they must take deliberate, concrete and targeted steps (obligation of immediate enforceability) to prevent increases in air pollution and the release of toxic substances, improve air quality, rehabilitate contaminated sites, and fulfil the right to a healthy environment (obligation of result conditioned to gradual, progressive and continuous improvement).¹⁰⁶ States are obligated to use the maximum available resources to realize human rights, referring to financial, natural, human, technological, institutional and informational resources.¹⁰⁷

4. *Non-retrogression*

72. States must adopt science-based environmental laws, policies and standards for air pollution and toxic substances, based on international guidance from organizations including the World Health Organization, the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme. Once these rules are in place, the principle of non-retrogression means the State cannot ignore them or establish levels that are less protective without compelling justification.¹⁰⁸ Retrogression of environmental rules violates States' obligation to ensure the progressive development of the right to a clean, healthy, and sustainable environment. For example, the weakening of national air quality standards in Peru was identified by the Inter-American Commission on Human Rights as unjustified and inconsistent with its human rights obligations.¹⁰⁹

5. *Polluter pays*

73. The Organisation for Economic Co-operation and Development (OECD) introduced the polluter pays principle in 1972.¹¹⁰ The OECD stated that the polluter should bear the expenses of carrying out the pollution prevention, control and restoration measures required by public authorities, to ensure that the environment is in an acceptable state. Since 1972, the scope of the principle has gradually increased, initially focusing solely on pollution prevention and control costs but later extending to include the costs of the measures authorities took to deal with pollutant emissions.¹¹¹ A further extension of the principle covered environmental liability: polluters should pay for the health and environmental damage they cause, irrespective of whether the pollution giving rise to the damage was

¹⁰⁵ Committee on Economic, Social and Cultural Rights, general comment No. 3 (1990) on the nature of States parties' obligations.

¹⁰⁶ International Covenant on Economic, Social and Cultural Rights, art. 2 (1).

¹⁰⁷ Report of the Special Rapporteur on the human rights to safe drinking water and sanitation, A/HRC/45/10.

¹⁰⁸ A/HRC/49/53, Op. cit, para. 58.

¹⁰⁹ Inter-American Commission, "La Oroya", Op. cit, para. 188.

¹¹⁰ OECD, Recommendation of the Council on Guiding Principles concerning International Economic Aspects of Environmental Policies, 2020.

¹¹¹ European Court of Auditors. Special Report 2021. The Polluter Pays Principle: Inconsistent application across EU environmental policies and actions, p. 7.

below legal limits (termed “allowable residual pollution”), above legal limits, or accidental.¹¹²

74. In 1992, the United Nations Declaration on Environment and Development (commonly known as the “Rio Declaration”) included the polluter pays principle as one of the guiding principles for future sustainable development. Principle 16 states:

*National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.*¹¹³

75. Policymakers can use this principle to curb pollution and restore the environment, as polluters are incentivized to avoid environmental damage.¹¹⁴ In economic terms, this constitutes the “internalization” of “negative environmental externalities”.¹¹⁵ Many States now impose substantial, though not yet sufficient, taxes on pollution and the release of toxic substances. Some jurisdictions have enacted legislation enabling the State to recover costs of environmental restoration not only from present owners and operators of polluting facilities and contaminated sites but also from past owners and operators.¹¹⁶ Higher pollution taxes and stricter government regulation are needed to protect the right to a clean, healthy, and sustainable environment.

IV. The special impact of environmental harm on the rights of children

76. No group is more vulnerable to environmental harm than children, who make up 30 per cent of the world’s population.¹¹⁷ Environmental harm has especially severe effects on children under the age of five. Of the 5.9 million deaths of children under the age of five in 2015, the World Health Organization estimates that more than one quarter — 1.5 million deaths — could have been prevented through the reduction of environmental risks.¹¹⁸ In addition, one quarter of the total disease burden in children under the age of five is attributed to environmental exposures.¹¹⁹ Childhood exposure to pollutants and other toxic substances also contributes to disabilities, diseases, and premature mortality in adulthood.¹²⁰

¹¹² *Ibid.* See also OECD, Recommendation of the Council concerning the Application of the Polluter-Pays Principle to Accidental Pollution, 1989.

¹¹³ Rio Declaration on Environment and Development. A/CONF.151/26 (Vol. I) General Assembly Distr. GENERAL 12 August 1992.

¹¹⁴ Op.cit, European Court of Auditors. Special Report 2021, pp 6-7.

¹¹⁵ *Ibid.*

¹¹⁶ *Environmental Management Act*, SBC 2003 c 53, s. 45.

¹¹⁷ A/HRC/37/58, Op. cit., para.15.

¹¹⁸ World Health Organization (2017), *Don’t pollute my future! The impact of the environment on children’s health*, p. 1.

¹¹⁹ *Ibid*, p. 22.

¹²⁰ A/HRC/37/58, Op. cit.

77. Children are more susceptible to air pollution and toxic substances than adults for physiological, behavioural, and environmental reasons, including that their smaller respiratory airways are more easily blocked by infections, and that they breathe more quickly and take in more air per unit of body weight.¹²¹ Because their immune systems are still developing, they are at higher risk of respiratory infections and have less ability to combat them.¹²² Their developing brains and bodies are exquisitely sensitive to toxic substances such as lead, and they can suffer lifelong health consequences.¹²³

78. The harm from air pollution and exposure to toxic substances begins even before birth. As the Special Rapporteur on hazardous substances and wastes has established, children are often born “pre-polluted” because of their mothers’ exposure to pollutants, which is associated with preterm delivery, lower birthweight, and early fetal loss.¹²⁴

79. The World Health Organization reports that exposure to lead can affect children’s brain development, resulting in reduced intelligence quotient (IQ), behavioural changes such as reduced attention span and increased antisocial behaviour, and reduced educational attainment.¹²⁵ Lead exposure also causes anaemia, hypertension, renal impairment, immunotoxicity and toxicity to the reproductive organs. The neurological and behavioural effects of lead are irreversible. There is no known safe blood lead concentration; even blood lead concentrations as low as 3.5 µg/dL may be associated with decreased intelligence, behavioural difficulties and learning problems.

80. International law recognizes that environmental harm interferes with the full enjoyment of the rights of children. The Convention on the Rights of the Child, adopted in 1989, requires its parties to pursue full implementation of children’s rights to health and a healthy environment by taking measures, *inter alia*, 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” (art. 24 (2) (c)).¹²⁶

81. According to the UN Committee on the Rights of the Child, “States should take measures to address the dangers and risks that local environmental pollution poses to children’s health in all settings.”¹²⁷ The Committee has urged States to scale up and expedite actions to protect children from polluted air.¹²⁸ Both the Committee on the Rights

¹²¹ UNICEF, *Clear the air for children*, pp. 8 and 40.

¹²² *Ibid*, pp. 9 and 40.

¹²³ World Health Organization (2017) *Don’t pollute my future! The impact of the environment on children’s health*.

¹²⁴ A/HRC/33/41, paras. 5 and 16. See also UNICEF, *Clear the air for children*, pp. 8 and 43–44; WHO, 2017, *Inheriting a sustainable world? Atlas on children’s health and the environment*, p. 49.

¹²⁵ World Health Organization (2022). Lead poisoning: Key facts. <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.

¹²⁶ Article 24(2)(c).

¹²⁷ General Comment No. 15 (2013) The Right of the Child to the enjoyment of the Highest Attainable Standard of Health (CRC/C/GC/15) at para 49.

¹²⁸ CRC (2015) Concluding Observations on the combined Second to Fourth Periodic Report of Brazil at para. 66; CRC (2016) Concluding Observations on the Fifth Periodic Report of Pakistan at para 58; and CRC (2016) Concluding Observations on the Fifth Periodic Report of the United Kingdom of Great Britain and Northern Ireland at para 69.

of the Child and the Committee on Economic, Social and Cultural Rights have concluded that a healthy environment is necessary for children’s enjoyment of the rights to life, development, and health.¹²⁹ Similarly, the World Health Organisation has concluded that “children have a basic human right to breathe clean air in their homes, schools, and communities.”¹³⁰

82. The former Special Rapporteur on human rights and the environment emphasised the need to reduce the catastrophic health impacts of air pollution on children and youth.¹³¹ Similarly, the Special Rapporteur on Hazardous Substances and Wastes decried the “*silent pandemic*” of disease associated with childhood exposure to toxic substances and air pollution.¹³² Air pollution and exposure to toxic chemicals and waste not only prevent children from enjoying their rights; by interfering with their normal development, these environmental harms prevent them from enjoying their rights in the future.¹³³

83. The Inter-American Commission’s Report in this case notes specific harms experienced by children, and finds that such harms amount to violations of children’s rights.¹³⁴ This analysis is informed by the Commission’s interpretation of the UN Convention on the Rights of the Child. The Commission concludes that the children of La Oroya are accordingly entitled to special protective measures. This conclusion aligns with the jurisprudence of several courts in Latin America, which have recognized the unique vulnerability of children to environmental harms such as toxic pollutants. In these cases, courts have invalidated rights-inconsistent laws, ordered the provision of information related to the risks faced by children, and issued precautionary measures to protect the rights of children.

84. In the Chilean case of *Chahuan v. ENAP* discussed above, the Supreme Court of Chile recognized the specific vulnerability of children in relation to chemical pollution.¹³⁵ The Court observed that children, “due to their age and their state of physical and emotional development ... present a special sensitivity to the environmental conditions where they live”. Accordingly, the child victims of pollution in Quintero-Puchuncaví were entitled to remedies “with their situation specifically in mind, with the aim of safeguarding their

¹²⁹ See Committee on Economic, Social and Cultural Rights, general comment No. 14 (2000) on the right to the highest attainable standard of health, para. 4; Committee on the Rights of the Child, general comment No. 7 (2005) on implementing child rights in early childhood, para. 10; general comment No. 15 (2013) on the right of the child to the enjoyment of the highest attainable standard of health, para. 2.

¹³⁰ World Health Organization (2018) *Air pollution and children’s health: a global health emergency*, background document prepared for the first World Health Organization Global Conference on Air Pollution and Health, Geneva.

¹³¹ Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy, and Sustainable Environment, January 2018 (A/HRC/37/58) at paras 16 – 18, 69 – 70.

¹³² Report of the Special Rapporteur on the Implications for Human Rights of the Environmentally Sound Management and Disposal of Hazardous Substances and Wastes, August 2016 (A/HRC/33/41) at paras 2 -3.

¹³³ *Ibid.*

¹³⁴ CIDH. Report 330/20. Case 12.718. La Oroya Community. Peru. November 19, 2020. The Commission in particular notes that the rights of children must be interpreted in line with the UNCRC’s duties concerning consideration of the best interests of the child (UNCRC Article 3), and the child’s right to development (UNCRC Article 6.2).

¹³⁵ *Chahuan Chahuan v. ENAP S.A.* (Sup. Ct, 3rd Div, May 28, 2019).

integrity, both physical and mental”. This included orders to offer evacuation to children living in the worst-affected areas.

85. In *Foro Ecologista de la Parana v. Superior Government of the Province of Entre Rios (No. 1)*, the Superior Court of Justice of the Argentine province of Entre Rios invalidated government directives which permitted chemical spraying near a rural school.¹³⁶ The Court based its decision in part on the Convention on the Rights of the Child (CRC), which demands that government decision-makers take into account the best interests of children and protect their rights to the highest attainable standard of health. The Court accordingly awarded precautionary measures of protection. In a subsequent decision invalidating a further government decree, the same Court – once again citing the CRC – found that “the rights of health and of a healthy and balanced environment shall have absolute priority in public policies, and shall be a priority to always uphold the best interests of the child.”¹³⁷

86. In *Fischer v Comuna Dique Chico*, the Superior Court of Justice of the Argentine province of Cordoba dealt with a similar challenge to chemical spraying within the vicinity of a school.¹³⁸ The Court found that spraying within 500m of the school amounted to an impermissible violation of the schoolchildren’s rights, and spraying between 500 and 1000m could only be carried out following prior notification and consent. The Court observed that children were particularly vulnerable to environmental harms because they could not participate in decisions concerning environmental protection. Furthermore, the Court relied on several provisions of the CRC. It emphasized that all public institutions owe a duty under Article 3 of the CRC to consider the best interests of the child as a primary consideration in decision-making. The government’s duty to ensure, to the maximum extent possible, the survival and development of the child, was found to include a duty to guarantee adequate environmental conditions for all children.¹³⁹ Finally, the Court found that the CRC required the government authorities to take into consideration the risks of environmental pollution. The Court ordered the Ministry of Health to conduct field studies of the area, and the Ministry of Water and Environment to provide information related to chemicals in the local water and soil. The Court also ordered the children of the region to be educated in environmental matters and ordered that copies of the judgment be provided to the school.

87. For decades, children at La Oroya have been exposed to high levels of air pollution and have suffered from extremely high levels of lead in their blood, violating their right to a clean, healthy, and sustainable environment and causing irreparable harm to their health and future prospects.

¹³⁶ *Foro Ecologista de la Parana v Superior Government of the Province of Entre Rios*, TR LALEY AR/JUR/52426/2018 (SCJER, October 29, 2018).

¹³⁷ *Foro Ecologista de la Parana v Superior Government of the Province of Entre Rios*, TR LALEY AR/JUR/10449/2019 (SCJER, May 14, 2019).

¹³⁸ *Foro Ecologista de la Parana v Superior Government of the Province of Entre Rios*, TR LALEY AR/JUR/10449/2019 (SCJER, May 14, 2019).

¹³⁹ Citing UN Convention on the Rights of the Child, Article 6.2.

V. The right to a healthy environment and access to justice with effective remedies

88. Access to justice, including effective remedies, is vital to the protection of the right to a clean, healthy, and sustainable environment, as it ensures accountability.¹⁴⁰ As demanded by both the American Convention on Human Rights,¹⁴¹ and by the prevention principle,¹⁴² States should undertake due diligence to prevent environmental harm and reduce it to the greatest extent possible, but must also provide for remedies for any remaining harm.¹⁴³

89. Indeed, obligations of States to ensure access to judicial and non-judicial procedures for effective remedies for violations of human rights, as has been comprehensively developed by this Court in its jurisprudence, encompass remedies for violations of human rights relating to the environment. States must ensure that individuals have access to effective remedies against private actors, as well as government authorities, for failures to comply with the laws of the State relating to the environment.¹⁴⁴ For this purpose, sufficient human and financial resources must be allocated to government agencies responsible for enforcing them.¹⁴⁵

90. To provide for effective remedies, States should ensure that individuals have access to judicial and administrative systems that meet basic requirements including: (a) impartial, independent, affordable, transparent and fair procedures; (b) the review and adjudication of claims in a timely manner; (c) the necessary expertise and resources; (d) the incorporation of a right of appeal to a higher body; and (e) the possibility of obtaining binding decisions, including for interim measures, compensation, restitution and reparation, as necessary to provide effective remedies for violations.¹⁴⁶

91. Procedures should be available for claims of imminent and foreseeable as well as past and current violations. States should ensure that decisions are made public and that they are promptly and effectively enforced.¹⁴⁷ States should also provide guidance to the public about how to seek access to judicial and non-judicial procedures and should help to overcome obstacles to access such as language, illiteracy, expense and distance.¹⁴⁸

92. Article 63(1) of the American Convention on Human Rights states that in the event of a violation of a right enshrined by the Convention, “the Court shall rule that the injured party be ensured the enjoyment of his right or freedom that was violated” and that, if appropriate, “the consequences of the measure or situation that constituted the breach of such right...be remedied and that fair compensation be paid to the injured party”.

¹⁴⁰ See A/HRC/37/59, 24 January 2018, para. 4.

¹⁴¹ OC 23/17, para. 123.

¹⁴² *Ibid.*, para. 128.

¹⁴³ See A/HRC/37/59, 24 January 2018, para. 5.

¹⁴⁴ *Ibid.*, para. 28.

¹⁴⁵ See A/HRC/40/55. *Op. cit.*, para 76.

¹⁴⁶ See A/HRC/37/59, para. 29.

¹⁴⁷ *Ibid.*

¹⁴⁸ *Ibid.*, para. 30.

93. This Court has stated that, wherever possible, reparation of damage requires full restitution.¹⁴⁹ Where this is not possible, the Court must order measures that guarantee respect for the violated right, remedy the violation and compensate the victim for the damage caused.¹⁵⁰ Reparations consist of measures that will eliminate the effects of the violations that have been committed and may be pecuniary or non-pecuniary.¹⁵¹ They must also have a causal nexus to the facts of the case, the violations declared, the harm proved, and the measures requested to remedy the harm.¹⁵²

94. The unique attributes of the right to a healthy environment, articulated by this Court in Advisory Opinion 23/17, have important consequences regarding remedies. This Court identified the individual and collective dimensions of the right, which suggests that remedies should also have both individual and collective dimensions.¹⁵³ This Court also emphasized the unique character of the right to a healthy environment in protecting both humans and nature, a conclusion that suggests the need for remedies to protect and restore both human and ecosystem health.¹⁵⁴

95. From the perspective of the European Court of Human Rights, “a remedy capable of rapidly bringing the ongoing violation to an end is of the greatest value”.¹⁵⁵ In the context of pollution, this requires State action to reduce pollution to levels compatible with the health and well-being of the area’s inhabitants.¹⁵⁶

A. Compensation

96. Compensation can be granted by this Court one of two ways. First, through pecuniary compensation, which is calculated based on elements which allow quantifiable damage to be ascertained, such as loss of income, medical costs, and physical damage.¹⁵⁷

97. This Court has also established that non-pecuniary measures may lead to Court-ordered monetary compensation.¹⁵⁸ In the case of non-pecuniary compensation, victims may be compensated for emotional harm and other psychological impact¹⁵⁹, disruption of lifestyle¹⁶⁰, pain and suffering¹⁶¹, and detrimental impact to significant personal values.¹⁶²

¹⁴⁹ *Case of Blanco Romero et al.*, Judgement of November 28, 2005. Series C No 138, para. 67; *Case of Pueblo Mello Massacre*, Judgement of January 31, 2006, Series C No 140, para. 228.

¹⁵⁰ *Ibid.*

¹⁵¹ *Ibid.*

¹⁵² *Case of Amrhein et al. v. Costa Rica, Preliminary objections, merits, reparations and costs*, Judgment of April 25, 2018, Series C No. 354, para. 468.

¹⁵³ Advisory Opinion 23/17, para. 59.

¹⁵⁴ *Ibid.*, para. 63.

¹⁵⁵ *Neshkov and Others v Bulgaria*, App. No. 36925/10, ECtHR, 27 January 2015, at para. 181.

¹⁵⁶ *Băcilă v Romania*, App. No. 19234/04, ECtHR, 30 March 2010 at para. 66.

¹⁵⁷ *Pueblo Mello Massacre*, Judgement of January 31, 2006, Series C No 140, para. 247.

¹⁵⁸ *Ibid* at para. 254.

¹⁵⁹ *Case of Velásquez-Rodríguez*, Judgement of July 21, 1989, Series C No 7, para. 27.

¹⁶⁰ *Case of Cantoral-Benavides*, Judgement of December 3, 2001, Series C No 88, para. 53.

¹⁶¹ *Ibid.*

¹⁶² *Case of the Moiwana Community*, Judgment of June 15, 2005, Series C No 124, para 191.

98. In the *Case of the Saramaka People*, this Court addressed Indigenous peoples' rights to land in the face of encroaching mining and logging activities conducted by private companies and authorized by Suriname without consultation with Indigenous people.¹⁶³ The Court found that the failure to adopt measures to recognize and protect the Saramaka people's right to use and enjoy their land constituted a violation of the American Convention of Human Rights.

99. In addition to pecuniary damages, this Court ordered non-pecuniary damages be paid to the Saramaka people based on the environmental damage and destruction of lands and resources traditionally used.¹⁶⁴ It also cited the suffering and distress that the Saramaka people endured throughout their struggle to gain legal recognition of their right to territory, which resulted in a denigration of their cultural and spiritual values.¹⁶⁵

B. Non-pecuniary restitution

100. Non-pecuniary measures also include measures of satisfaction and guarantees of non-repetition, which are ordered by this Court primarily through acts or projects with public recognition or repercussion.¹⁶⁶

1. Non-repetition and stronger air quality standards

101. Guarantees of non-repetition are essential to the protection of the victims' right to a healthy environment in this case. The La Oroya Metallurgical Complex has been sold to a worker-owned company which will take control of the facilities in settlement of the monies owing to them, and the company seems to intend to restart operations of the smelter.¹⁶⁷ If that happens, any legal victories that the victims accomplish before this Court will have little practical relevance in the face of continued pollution. Respecting, protecting and fulfilling the right to a clean, healthy and sustainable environment requires reducing the burden of pollution and toxic substances on disproportionately impacted communities such as La Oroya, not increasing their burden.

102. Some orders of non-repetition involve public declarations and apologies to hold the State accountable to the violation.¹⁶⁸ Others require changes to legislative and regulatory schemes to prevent the violation from recurring. The latter is the more effective means of non-repetition in the factual context of this case. Peru must enact and enforce stronger air quality standards so that other industrial facilities are prevented from imposing the same quantity and severity of pollution on other communities.

¹⁶³ *Case of the Saramaka People*, Judgement of November 28, 2007, Series C No 172.

¹⁶⁴ *Case of the Saramaka People*, Judgement of November 28, 2007, Series C No 172, para. 200.

¹⁶⁵ *Ibid.*

¹⁶⁶ *Case of Pueblo Mello Massacre*, Judgement of January 31, 2006, Series C No 140, para. 254.

¹⁶⁷ <https://www.mining-journal.com/base-metals/news/1389253/nueva-la-oroya-to-restart-la-oroya-smelter-in-2021>

¹⁶⁸ See, for example, *Case of the Moiwana Community*, Judgment of June 15, 2005, Series C No 124, para. 216.

103. This Court referred to the right to a healthy environment in the *Indigenous Communities of the Lhaka Honhat* case, where it held that Argentina failed to implement measures to stop illegal logging and other harmful activities in the territories of the Indigenous communities.¹⁶⁹ These activities affected their cultural and spiritual identity and connection to the land. The main question before this Court was whether Argentina had violated the right to community property by not providing adequate legal certainty to that right for Indigenous communities.¹⁷⁰ As a measure of non-repetition, Argentina was ordered to adopt enforceable legislative and other measures necessary to provide legal certainty for that right.¹⁷¹

104. Similarly, in the *Case of the Saramaka People*, discussed earlier, this Court granted the victims a reparations remedy that required the state to “adopt legislative, administrative and other measures necessary to recognize and ensure the right” in question.¹⁷² These cases illustrate that a measure of reparation focused on improving air quality standards by way of legislation, regulation, and policy is supported by this Court’s jurisprudence.

2. Medical treatment

105. In the context of this case, medical diagnoses, immediate treatment and community health studies are vital to the restitution of the victims. Children in La Oroya are suffering the consequences of generations of water, soil, and air pollution from the La Oroya Metallurgical Complex. Today, these children are living in an area with extreme amounts of lead pollution in land and livestock, a situation that continues to significantly impact their health. This Court has produced decisions that address medical treatment as a form of non-pecuniary restitution.

106. In *Case of Cuscul Pivaral et al*, this Court dealt with Guatemala’s failure to provide public medical care for individuals diagnosed with HIV between 1992 and 2003.¹⁷³ This failure was regarded as a violation of human rights, particularly the right to health. Guatemala was ordered to implement mechanisms for the supervision and monitoring of public hospitals to ensure that comprehensive health care was being provided to individuals with HIV, and to ensure the accessibility and availability of antiviral drugs, diagnostic tests, and other health services for individuals with HIV.¹⁷⁴

3. Court-supervised cleanup, restoration and rehabilitation, and community health studies

¹⁶⁹ *Indigenous Communities of the Lhaka Honhat (Our Land) Association v Argentina*, Judgment, Series C no 400, 6 February 2020.

¹⁷⁰ *Indigenous Communities of the Lhaka Honhat (Our Land) Association v Argentina*, Judgment, Series C no 400, 6 February 2020, para. 114.

¹⁷¹ *Ibid*, para. 354.

¹⁷² *Case of the Saramaka People*, Judgement of November 28, 2007, Series C No 172, para. 194(d).

¹⁷³ *Cuscul Pivaral et al v Guatemala*, Judgement of August 23, 2018, Series C No 359.

¹⁷⁴ *Ibid*, paras. 225 – 226.

107. In *Indigenous Communities of the Lhaka Honhat*, this Court ordered Argentina to author a report, with the help of relevant Indigenous communities and technical experts, addressing conservation of surface and groundwater, recovery of forests, and permanent access to drinking water and nutritional and culturally appropriate food.¹⁷⁵ Argentina was also ordered to conduct a community study that identifies critical situations of lack of access to drinking water or food that could endanger health, followed by an action plan to address response measures.¹⁷⁶

108. Another important case involved one of the most polluted communities in Latin America, near the mouth of the Riachelo River in Buenos Aires, Argentina. The Constitution of Argentina states that “Every citizen has the right to a healthy and balanced environment, suitable for human development and for productive activities to satisfy present needs without compromising those of future generations” (Article 41). In a landmark 2008 decision, the Supreme Court of Argentina concluded that severe air and water pollution in the Riachuelo River watershed violated residents’ constitutional right to live in a healthy environment.¹⁷⁷ As a result, the Court required the federal government, provincial government, local municipalities and dozens of companies to take measures to reduce pollution, remedy environmental damage, and prevent future damage. The Court established an action plan requiring the governments to fulfill specific measures, including: (i) producing and disseminating public information about the state of the environment and threats to human health; (ii) controlling industrial air and water pollution; (iii) developing an emergency sanitation plan; (iv) improving drinking water and wastewater treatment infrastructure; (v) improving solid waste management; and (vi) adopting a comprehensive measurement system to assess compliance with the plan’s goals. In order to ensure enforcement, the Court delegated oversight to a federal court and required the governments to provide regular updates to the court on the status of implementation of its orders.

109. In the case of La Oroya, key priorities to prevent ongoing lead exposure must include the effective remediation of soils to meet international standards and effective measures to control lead dust from entering homes and schools.

VI. Conclusion

110. Air pollution and exposure to toxic substances are the deadliest environmental problems in the world today, causing nine million deaths annually and preventing billions of people from enjoying their human right to live in a clean, healthy, and sustainable environment.

111. Yet air pollution and exposures to toxic substances are preventable problems, with well-known solutions. Solving air pollution and preventing exposure to toxic substances

¹⁷⁵ *Indigenous Communities of the Lhaka Honhat (Our Land) Association v Argentina*, Judgment, Series C no 400, 6 February 2020, paras. 333 – 335.

¹⁷⁶ *Ibid*, para. 332.

¹⁷⁷ *Beatriz Silvia Mendoza, et al. v. National State of Argentina et al.* (Supreme Court of Argentina), July 8, 2008.

involves the effective implementation of the seven key steps, presented in this brief and derived from international human rights law and domestic constitutional jurisprudence. Reducing risks of damage from air pollution and exposure to toxic substances requires reducing air pollution to levels that meet international standards, terminating the use or release of toxic or hazardous substances, providing medical treatment, and rehabilitating contaminated communities.

112. This proceeding began more than fifteen years ago, and the people of La Oroya are still living in a sacrifice zone, where profits and private interests have been given priority over human health, human rights, and the protection of the environment. Justice delayed can be justice denied, particularly in cases where the health of persons, especially children, has suffered irreversible damage.

113. Protecting human rights from the harmful effects of air pollution and toxic substances is an international human rights obligation, not an option, for governments in the Inter-American human rights system. The failure of governments to improve poor air quality and reduce the risks of exposure to toxic substances such as lead, especially when they have failed to act with the requisite degree of urgency and due diligence in the face of decades of prodigious pollution and contamination, is a violation of multiple human rights, including the right to a clean, healthy, and sustainable environment. Of paramount concern is the irreversible harm inflicted on generations of children who will never be able to realize their full potential. This is the tragic legacy of La Oroya.

Respectfully submitted this 22nd day of October, 2022,

A handwritten signature in black ink that reads "Dr. Boyd". The signature is written in a cursive, flowing style.

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