



Children's Right to a Healthy Environment in Extractive Contexts: A Comparative Study of Kyrgyzstan and Puerto Guzmán in the Colombian Andean Amazon



Global Campus
Alumni

Together for Human Rights



ABOUT THE AUTHORS

Alejandra Valle holds a Bachelor's degree in International Relations, a Master's degree in Human Rights and Democracy in Latin America, and a Postgraduate Specialization in Protection of Vulnerable Populations and is currently pursuing a Social Communication degree. As a humanitarian worker, she has a proven track record across Central America and the region leading social research, and project management within UN agencies and Civil Society. Her expertise encompasses child protection within socio-environmental dynamics, migration, adolescent pregnancy prevention, maternal and child health, and sexual and reproductive rights for incarcerated women, leveraging technical evidence and strategic communication for policy advocacy.

Camila Ramos is a political scientist and human rights practitioner working at the intersection of public policy, territorial governance, children's rights, and environmental justice in Colombia. An alumna of the Global Campus of Human Rights, she holds a Master's degree in Human Rights and Democratisation in Latin America and the Caribbean and a Master's degree in Economics of Public Policy. She has worked with Colombian public institutions on human rights, child and adolescent protection, community participation, and territorial development, with a particular focus on the Andean-Amazon region. Her research explores biocultural rights, socio-environmental conflicts, extractive industries, and the right of children and communities to a healthy environment.

Navruz Erkaev is a MAHRS Alumnus, currently doing his Doctorate at the University of the Potomac. His research interests include human rights, rights of the child and future generations and rights of the indigenous people. Previously, Navruz has interned with the Child's Rights Department of the Global Campus of Human Rights Headquarters.

This research paper was developed as part of the Global Campus Alumni Cross-Regional projects, in partnership with [Right Livelihood](#).

The views and opinions expressed in this work are those of the authors and do not necessarily reflect the official policy or position of the Global Campus of Human Rights or Right Livelihood.



TABLE OF CONTENTS



Executive Summary	4
Introduction	6
1. Background and Problem Statement	6
1.2 Research questions and significance	10
1.2.1 RQ1. How do extractive companies in Central Asia and the Andean Amazon impact children's rights to a healthy environment, specifically regarding access to education, health, and clean water?	10
1.2.2 . RQ2 How do legal frameworks and public policies address these three rights to recognize and protect children as active rights-holders in extractive contexts?	11
1.2.3 RQ3. What are civil society's primary advocacy strategies to address the State's failure to protect children's human rights within extractive frontiers?	11
2. Conceptual and normative framework	14
2.1 Children's right to a healthy environment (CRC, General Comments, HRC)	14
2.2 Human rights in extractive industries	16
2.3 Analytical framework: key concepts and dimensions	18
3. Methodology	19
3.1 Research design	19
3.2 Unit of analysis and case selection	20
3.3 Data collection	21
3.4 Data analysis	21
3.5 Ethical considerations	22
4. Context: extractive sectors and child-relevant impacts	22
4.1 Central Asia (Kyrgyzstan)	22
4.1.1 Political-economic overview	22
4.1.2 Environmental and social impacts on children	23
4.1.3 Legal and policy responses	23
4.2 Andean Amazon: Puerto Guzmán, Colombia	25
4.2.1 Political-economic overview	25
4.2.2 Environmental and social impacts on children	26
4.2.3 Legal and policy responses	27
4.3 Cross-regional patterns – convergence and divergences	28
5. Children's agency, civil society advocacy, and access to remedy.	30
5.1 Civil society advocacy strategies	30
5.2 Children's voices and mobilisation	32
5.3 Participation in decision-making	33
5.4 Remedies and accountability mechanisms	35
6. Comparative discussion	36
6.1 Synthesis for RQ1	36
6.2 Synthesis for RQ2	38
6.3 Synthesis for RQ3	40
6.4 Explanatory factors	41
7. Conclusion and recommendations	43
7.1 Recommendations	44
7.2 Limitations and Future Research	46
8. References	49



EXECUTIVE SUMMARY

The global energy transition is accelerating demand for minerals while intensifying extractive pressure on environmentally sensitive territories. This transition may reduce carbon emissions at the point of consumption while transferring pollution, water insecurity, ecosystem loss, and social disruption to children living near extraction sites. This study examines that tension through a focused comparison of Kyrgyzstan—particularly the Khaidarkan mercury-mining area and the Terek-Sai gold-mining area, with Kumtor as a secondary reference—and Puerto Guzmán, Putumayo, in the Colombian Andean Amazon. The cases were selected because both combine extractive dependence, documented environmental risks, formal child-rights protections, and significant implementation gaps, while differing in ecosystem, legal opportunity structures, civic space, Indigenous territorial governance, and exposure to armed conflict.

Using a comparative qualitative, desk-based case-study design, the research analyzes legal and policy documents, reports from international organizations and civil society, corporate materials, and published environmental and epidemiological evidence. No primary interviews were conducted because of time, access, security, and ethical constraints; community and child perspectives are therefore drawn from selected interviews and testimonies already published by credible organizations, journalists, and international bodies. Data analysis follows a thematic coding procedure structured around five analytical dimensions—recognition, protection, participation, accountability, and remedy. Each source is coded according to the analytical dimensions it addresses and the right at stake (health, education, or access to clean water).

The coded material is then organized into a cross-case comparison matrix contrasting Kyrgyzstan and Colombia/Puerto Guzmán across these dimensions, providing the basis for the comparative synthesis. This structured approach ensures a systematic comparison despite differences in the scale of the two cases by applying the same analytical framework to both national-level legal and policy evidence and site-level evidence of documented impacts. The analysis ultimately assesses how these five dimensions shape children's health, education, and access to clean water.

The findings show a shared recognition–implementation gap. In both cases, children are formally recognized as rights-holders, yet environmental licensing, impact assessment, monitoring, corporate due diligence, consultation, and remedy rarely include systematic child-specific safeguards.

The pathways of harm diverge: Kyrgyzstan highlights heavy-metal exposure, damage to community infrastructure, and glacier-related threats to future water security; Puerto Guzmán shows how mercury contamination, river and forest degradation, poverty, Indigenous and rural marginalization, and armed-conflict dynamics intersect. Civil society strategies also differ, with Colombia offering stronger constitutional and regional litigation channels and Kyrgyz actors relying more heavily on monitoring, international advocacy, labour action, and youth climate mobilization.

The study argues for preventive extractive governance: mandatory child-rights impact assessments, child-specific human-rights due diligence, meaningful and age-appropriate participation before project authorization, child-sensitive monitoring and remedies, and stronger coalitions linking child rights, Indigenous rights, environmental justice, and climate advocacy. Children should be treated not only as vulnerable future generations, but as present-day rights-holders and participants in environmental decision-making, advocacy, and litigation.



1. INTRODUCTION

1.1 BACKGROUND AND PROBLEM STATEMENT

Extractive industries play a central role in the economic development strategies of many resource-dependent countries. Mining, oil, and gas extraction generate export revenues, public income, employment, and foreign investment and are frequently presented by governments as necessary instruments for economic growth and national development. At the same time, extractive activities are associated with significant environmental and social impacts, including pollution, heavy-metal contamination, deforestation, ecosystem degradation, water insecurity, displacement, loss of traditional livelihoods, and socio-environmental conflict¹.

These impacts are not distributed equally. Communities located in extractive frontiers frequently bear a disproportionate share of the environmental and social costs of natural-resource exploitation while receiving limited benefits from the revenues generated by extractive activities². Indigenous peoples, rural populations, and communities living in territories characterized by poverty, weak public infrastructure, limited State presence, or political marginalization are particularly exposed to these dynamics³.

Within these populations, children face differentiated and long-term risks. Childhood is a unique period of rapid physical, neurological, psychological, and social development⁴. Children's developing bodies, higher physiological sensitivity to pollutants, dependence on environmental resources and public services, limited influence over political decision-making, and longer lifetime exposure to environmental degradation make them particularly vulnerable to the consequences of extractive activities.

Exposure to mercury, lead, arsenic, hydrocarbons, particulate matter, and other toxic substances may cause neurological damage, respiratory and gastrointestinal illnesses, developmental delays, immune-system impairment, and other long-term health consequences⁵. Environmental degradation and contamination of water sources may undermine access to clean water and food security, while pollution-related illnesses, water-collection burdens, damage to educational infrastructure, displacement, and insecurity may disrupt school attendance, learning outcomes, and children's broader educational development.

1 United Nations Environment Programme, United Nations Institute for Training and Research, & Zoï Environment Network. (2009). *Addressing primary mercury mining in Kyrgyzstan: Khaidarkan mercury*. Zoï Environment Network, United Nations Environment Programme, & United Nations Institute for Training and Research. <https://www.zoinet.org/web/sites/default/files/publications/khaidarkan-mercury-mining.pdf>

2 Inter-American Commission on Human Rights. (2016). *Indigenous peoples, Afro-descendant communities, and natural resources: Human rights protection in the context of extraction, exploitation, and development activities*. Organization of American States. <https://www.oas.org/en/iachr/reports/pdfs/ExtractiveIndustries2016.pdf>

3 Inter-American Commission on Human Rights, & Special Rapporteurship on Economic, Social, Cultural, and Environmental Rights (REDESCA). (2025, August). *Joint statement on the protection of Indigenous peoples' rights in the context of extractive industries*. Organization of American States. <https://www.oas.org/en/iachr/>

4 Committee on the Rights of the Child. (2023). General comment No. 26 (2023) on children's rights and the environment, with a special focus on climate change (CRC/C/GC/26). United Nations. <https://digitallibrary.un.org/record/4017348>

5 World Health Organization. (2017). *Inheriting a sustainable world? Atlas on children's health and the environment*. World Health Organization. <https://www.who.int/publications/i/item/9789241511773>

For Indigenous and rural children, the consequences of extractive activities extend beyond physical health and access to essential services⁶. Territory, rivers, forests, biodiversity, traditional livelihoods, collective identity, and cultural knowledge are closely interconnected. The degradation of ecosystems may therefore undermine children's cultural continuity and the intergenerational transmission of knowledge, producing forms of biocultural harm that affect both present and future generations.

The growing recognition of these differentiated impacts has contributed to the development of international standards concerning children's environmental rights and the responsibilities of States and businesses⁷.

The Convention on the Rights of the Child (CRC) establishes a comprehensive framework for protecting children's rights to life, survival and development, health, education, participation, and an adequate standard of living. Although the CRC does not contain a standalone provision explicitly establishing a right to a healthy environment, the realization of these rights depends fundamentally on environmental conditions .⁸

The UN Committee on the Rights of the Child's General Comment No. 16 (2013) strengthened this framework by clarifying States' obligations regarding the impact of the business sector on children's rights⁹. It emphasizes that States must regulate, monitor, investigate, and provide remedies for business activities that negatively affect children and that the realization of children's rights cannot be assumed to follow automatically from economic growth or private-sector development.

More recently, General Comment No. 26 (2023) explicitly developed States' obligations concerning children's rights and the environment, recognizing environmental degradation, pollution, biodiversity loss, and climate change as urgent threats to children's rights. It emphasizes prevention, the precautionary principle, intergenerational equity, access to justice, corporate responsibility, and children's meaningful participation in environmental decision-making.

At the same time, the UN Guiding Principles on Business and Human Rights establish that businesses have an independent responsibility to respect human rights by identifying, preventing, mitigating, and accounting for their adverse impacts through human rights due diligence.

This contradiction is visible in Central Asia, where mineral and hydrocarbon extraction remain important components of national economies and development strategies.

6 Committee on the Rights of the Child. (2023). *General comment No. 26 (2023) on children's rights and the environment, with a special focus on climate change* (CRC/C/GC/26). United Nations. <https://digitallibrary.un.org/record/4017348>

7 United Nations General Assembly, *Resolution 76/300: The Human Right to a Clean, Healthy and Sustainable Environment*, A/RES/76/300 (New York: United Nations, 2022).

8 United Nations, *Convention on the Rights of the Child* (New York: United Nations, 1989).

9 Committee on the Rights of the Child, *General Comment No. 16 (2013) on State Obligations Regarding the Impact of the Business Sector on Children's Rights*, CRC/C/GC/16 (Geneva: United Nations, 2013).

Across the region, extractive activities have generated persistent concerns regarding heavy-metal exposure, industrial pollution, occupational hazards, ecosystem degradation, water insecurity, and the health and safety of surrounding communities.

Within this broader regional context, Kyrgyzstan constitutes the primary Central Asian case examined in this study. The country provides a relevant context for examining the relationship between extractive companies and children's rights because of its economic dependence on mineral extraction, the environmental and social impacts associated with mining activities, and the coexistence of a comparatively developed child-rights framework with persistent weaknesses in environmental enforcement.

The Khaidarkan mercury mining area and the Terek-Sai gold mining area illustrate how children living in mining-affected communities may be exposed to heavy metals, chemical substances, contaminated water sources, air pollution, environmental degradation, and deteriorating community infrastructure¹⁰.

Children's physiological characteristics increase the risks associated with exposure to these pollutants. Developing neurological and immune systems and proportionally higher absorption of toxic substances may increase the likelihood of cognitive impairment, developmental disorders, chronic illness, and other long-term consequences¹¹.

The Kumtor gold mine provides an additional reference point for examining the long-term environmental consequences of extractive activities. Mining operations affecting glaciers and mountain ecosystems raise concerns regarding future water security for downstream populations and demonstrate how environmental harm may extend across generations¹².

Comparable structural tensions characterize the Andean Amazon, a region spanning parts of Colombia, Ecuador, Peru, and Bolivia where mining, oil extraction, deforestation, and infrastructure expansion have transformed territories inhabited by Indigenous peoples, Afro-descendant communities, rural populations, and large numbers of children and young people.

Within this broader regional context, Puerto Guzmán, Putumayo, Colombia, constitutes the primary site-level case examined in this study. The municipality provides a particularly relevant setting for analyzing the relationship between extractive companies and children's rights because environmental degradation interacts with poverty, limited public infrastructure, Indigenous and rural territories, alluvial gold mining, oil-related pressures, deforestation, and the continuing presence of armed actors.

10 United Nations Environment Programme, United Nations Institute for Training and Research, & Zoï Environment Network. (2009)

11 Ángel Tuninetti, *Whose Land, Whose Forests? The Gendered Impacts and Colonial Roots of Extractive Industries*, Forest Cover 67 (Asunción: Global Forest Coalition, 2022).

12 GlacierHub. "Kumtor Gold Mine Threatens Central Asian Glaciers and Water." GlacierHub, December 23, 2014. Columbia University. Accessed July 16, 2026. <https://glacierhub.org/2014/12/23/kumtor-gold-mine-threatens-central-asian-glaciers-and-water/>

Mercury used in alluvial gold mining creates risks of neurological and developmental harm, while contamination of rivers and ecosystems affects access to clean water, fishing, food security, and traditional livelihoods. These environmental pressures interact with armed-conflict dynamics, including territorial control by illegal armed groups, anti-personnel mines, displacement, restricted mobility, and the recruitment of children and adolescents¹³.

The two cases are not symmetrical, nor does the study assume that extractive activities operate identically across both regions. Kyrgyzstan and Colombia belong to different legal traditions and regional human rights systems, and the environmental pathways of harm differ significantly. In Kyrgyzstan, extractive activities are associated with heavy-metal exposure, mining-related infrastructure damage, environmental enforcement gaps, and long-term risks to water security linked to glacier degradation. In Puerto Guzmán, mercury contamination, river-basin degradation, deforestation, biocultural harm, and the interaction between extractive activities and armed conflict create a distinct configuration of risks.

Children are formally recognized as rights-holders under international and domestic law, yet this recognition is not systematically translated into preventive and enforceable mechanisms within extractive-sector governance. Child-specific human rights impact assessments remain largely absent from environmental licensing procedures, children's participation in decisions concerning extractive projects is limited, monitoring mechanisms rarely incorporate child-specific indicators, and access to effective and child-sensitive remedies remains uneven.

The growing involvement of children and young people in environmental litigation, climate advocacy, and community mobilization challenges this passive-victim approach. Child and youth plaintiffs in Colombia and the wider Andean Amazon,¹⁴ together with emerging youth environmental mobilization in Kyrgyzstan, demonstrate that children increasingly claim a direct role in decisions concerning environmental protection, natural-resource governance, and intergenerational justice¹⁵.

This problem is increasingly urgent in the context of the global energy transition. Growing demand for critical minerals is expected to intensify extraction in environmentally sensitive territories, many of which overlap with Indigenous lands, rural communities, areas characterized by weak State presence, and regions with large populations of children and young people¹⁶.

Against this background, this study comparatively examines the impacts of extractive companies on children's rights to a healthy environment, specifically regarding access to education, health, and clean water; the extent to which legal frameworks and public policies

13 Human Rights Watch. "Colombia: Los grupos armados someten a las comunidades en Putumayo." *Human Rights Watch*, December 5, 2025. Accessed July 16, 2026. <https://www.hrw.org/es/news/2025/12/05/colombia-los-grupos-armados-someten-a-las-comunidades-en-putumayo>

14 Dejusticia. *STC 4360-2018: Litigio de niños y jóvenes contra la deforestación amazónica*. Bogotá: Corte Suprema de Justicia de Colombia, 2018.

15 United Nations in Kyrgyz Republic, "Kyrgyzstan's Youth Prepared a Statement on Climate Change," *United Nations Kyrgyzstan*, September 6, 2024.

16 Business and Human Rights Resource Centre. *Transition Minerals Tracker: 2026 Global Analysis*. London: Business and Human Rights Resource Centre, 2026.

recognize and protect children as active rights-holders in extractive contexts; and the primary advocacy strategies developed by civil society to address State failures to protect children's human rights within extractive frontiers.

1.2 Research questions and significance

Against the background described above, this study investigates the relationship between extractive industries, environmental degradation, and children's rights through a comparative analysis of Central Asia and the Andean Amazon. More specifically, it examines Kyrgyzstan through the mining areas of Khaidarkan and Terek-Sai, with the Kumtor gold mine used as a secondary reference point, and Puerto Guzmán, Putumayo, Colombia, as the primary site-level case in the Andean Amazon.

The overall objective of the research is to examine how extractive companies affect children's rights to a healthy environment, specifically regarding access to education, health, and clean water; to assess how legal frameworks and public policies recognize and protect children as active rights-holders in extractive contexts; and to analyze the advocacy strategies developed by civil society to address State failures to protect children's human rights within extractive frontiers.

Accordingly, the study addresses the following research questions:

RQ1. How do extractive companies in Central Asia and the Andean Amazon impact children's rights to a healthy environment, specifically regarding access to education, health, and clean water?

This question examines the environmental and social pathways through which extractive companies affect children's rights to health, education, and clean water. It focuses on exposure to heavy metals and other toxic substances, water contamination and insecurity, environmental degradation, damage to educational infrastructure, school absenteeism, loss of traditional livelihoods, food insecurity, and the broader consequences of extractive activities for children's physical, cognitive, social, and cultural development.

The comparative approach allows the study to identify both convergent patterns of harm and context-specific mechanisms. In Kyrgyzstan, particular attention is given to mercury and gold mining, toxic exposure, mining-related damage to community and educational infrastructure, and long-term water-security risks associated with glacier degradation. In Puerto Guzmán and the Andean Amazon, the analysis focuses on mercury contamination, river-basin degradation, deforestation, food insecurity, loss of territorial and cultural continuity, and the interaction between extractive activities and armed-conflict dynamics.

RQ2. How do legal frameworks and public policies address these three rights to recognize and protect children as active rights-holders in extractive contexts?

This question examines the extent to which international human rights standards and domestic legal and policy frameworks translate the rights to health, education, and clean water into effective mechanisms for recognizing and protecting children as active rights-holders in extractive contexts.

The analysis considers the Convention on the Rights of the Child, General Comments Nos. 16 and 26 of the Committee on the Rights of the Child, the UN Guiding Principles on Business and Human Rights, constitutional provisions, child-protection legislation, environmental regulation, extractive-sector governance frameworks, and relevant regional human rights standards. Particular attention is given to whether States have incorporated a child-rights-based approach into environmental licensing, environmental and social impact assessments, corporate human rights due diligence, monitoring and enforcement mechanisms, participation in environmental decision-making, and access to effective remedies.

The question therefore moves beyond determining whether children's rights are formally recognized in domestic and international law. It investigates whether children are effectively treated as active rights-holders whose differentiated vulnerabilities, interests, experiences, and perspectives influence decisions concerning extractive activities and environmental governance.

RQ3. What are civil society's primary advocacy strategies to address the State's failure to protect children's human rights within extractive frontiers?

This question examines the strategies developed by civil society organizations to respond to State failures to prevent environmental harm, regulate extractive companies, enforce children's rights, guarantee meaningful participation, and provide effective remedies.

The analysis considers human rights monitoring and documentation, strategic litigation, submissions to international and regional human rights mechanisms, Indigenous-led environmental monitoring, community mobilization, public advocacy, trade-union action, environmental and climate-justice campaigns, and child- and youth-led mobilization.

Through the comparison between Kyrgyzstan and the Andean Amazon, the study examines how differences in legal systems, civic space, institutional capacity, access to courts, regional human rights mechanisms, Indigenous governance structures, and exposure to armed conflict shape the advocacy strategies available to civil society.

The research therefore seeks to explain not only which advocacy strategies are used, but also why different forms of civil society mobilization emerge in different extractive contexts despite comparable State failures to prevent environmental harm and protect children's human rights.

The study addresses an important gap at the intersection of children's rights, environmental justice, business and human rights, and comparative extractive governance. Existing scholarship has extensively examined the environmental consequences of mining and oil extraction, Indigenous peoples' rights, corporate accountability, environmental conflicts, and child labour. However, these areas of research frequently remain analytically separated.

Research concerning children and extractive industries often focuses primarily on child labour, trafficking, hazardous employment, or children's general vulnerability to poverty. Conversely, research on environmental degradation and extractivism frequently analyzes affected communities as relatively homogeneous populations.

As a result, the differentiated impacts of extractive companies on children's rights to health, education, and clean water remain insufficiently integrated into business and human rights scholarship and extractive-governance research.

A second research gap concerns the relationship between formal legal recognition and effective protection. International human rights law increasingly recognizes children as autonomous rights-holders and establishes obligations concerning environmental protection, business activities, participation, and intergenerational justice. Nevertheless, limited comparative research has examined whether these standards are translated into child-specific requirements within environmental licensing, environmental and social impact assessments, corporate human rights due diligence, monitoring systems, participation mechanisms, and access to remedy.

This study conceptualizes this disconnect as a recognition-implementation gap. States may maintain comparatively developed child-rights frameworks while extractive-sector governance continues to treat children primarily as members of households or affected communities rather than as an identifiable category of active rights-holders requiring differentiated assessment, prevention, participation, protection, and remedy.

A third research gap is comparative and transregional. Research on extractivism frequently remains organized within regional boundaries. Latin American scholarship has developed extensive debates concerning extractivism, environmental justice, Indigenous peoples' rights, corporate accountability, and strategic litigation, while research on Central Asia has focused more heavily on post-Soviet resource governance, mining economies, environmental degradation, labour conditions, and institutional transformation.

By comparing Central Asia and the Andean Amazon through the cases of Kyrgyzstan and Puerto Guzmán, Colombia, this study examines whether similar impacts on children's rights and comparable protection gaps emerge across territories characterized by different ecosystems, political histories, legal traditions, regional human rights systems, and civil society environments.

The comparison does not assume that the cases are symmetrical. Instead, it uses a structured comparative framework to identify both convergences and divergences.

Heavy-metal exposure, water insecurity, weak redistribution of extractive revenues, the absence of child-specific human rights due diligence, limited child participation in environmental decision-making, and persistent gaps between legal recognition and implementation constitute important areas of convergence.

At the same time, glacier degradation, deforestation, armed conflict, Indigenous territorial rights, access to constitutional litigation, regional human rights mechanisms, and differences in civic space generate important contextual divergences.

The research also contributes to the literature by examining children not only as a population particularly vulnerable to environmental harm but also as active rights-holders capable of participating in environmental governance, mobilizing communities, using judicial and international mechanisms, and demanding accountability from States and corporations.

This perspective challenges approaches that represent children primarily as passive victims of extractive activities. Children's differentiated vulnerability requires special protection, but their status as rights-holders also requires meaningful opportunities to participate in decisions affecting their health, education, access to clean water, territories, communities, and environmental future.

The significance of the study is therefore both academic and policy-oriented. Academically, it brings together children's rights, environmental justice, business and human rights, and comparative extractive governance within a single analytical framework. It also provides a transregional comparison that identifies shared structural protection gaps while examining how different legal and political contexts shape State responses and civil society advocacy strategies.

From a policy perspective, the findings provide a basis for strengthening child-sensitive extractive governance. They support the incorporation of mandatory child-rights impact assessments into environmental licensing and environmental and social impact assessments; the integration of child-specific human rights due diligence into extractive-sector regulation and National Action Plans on Business and Human Rights; meaningful and age-appropriate child participation in environmental decision-making; stronger environmental and health

monitoring in extraction-affected communities; effective implementation of international labour and child-rights standards; and stronger coalitions connecting children's rights, Indigenous rights, environmental justice, and climate advocacy.

These contributions are particularly relevant in the context of the global energy transition. Growing demand for critical minerals is increasing pressure to expand extraction into environmentally sensitive territories, many of which overlap with Indigenous lands, rural communities, and regions characterized by limited State presence.

Without preventive child-rights safeguards, the expansion of extractive activities risks reproducing existing patterns of environmental injustice by transferring the environmental and social costs of natural-resource extraction and global decarbonization to children and future generations living in resource-producing territories.

By bringing together children's rights, business and human rights, environmental justice, and comparative extractive governance, this study argues that protecting children within extractive frontiers requires more than formal recognition of their rights.

It requires a transition from reactive responses to preventive governance; from general community-level assessments to child-specific human rights due diligence; from adult-centered environmental consultation to meaningful child participation; and from fragmented advocacy strategies to stronger coalitions capable of connecting children's rights, environmental justice, Indigenous peoples' rights, and climate governance.

In this sense, the study contributes to academic and policy debates by demonstrating that children must be understood simultaneously as subjects requiring special protection, autonomous and active rights-holders, and present-day actors capable of contributing to environmental governance and demanding accountability from States and extractive companies.

2. Conceptual and normative framework

2.1 Children's right to a healthy environment (CRC, General Comments, HRC)

The recognition of children's right to a healthy environment has evolved from an implicit reading of the Convention on the Rights of the Child (CRC) into a more explicit and integrated normative standard. Although the CRC does not formulate a standalone environmental right in a single provision, several of its articles clearly connect children's development and dignity to environmental conditions.

Article 24 is especially important because it links the right to the highest attainable standard of health with clean drinking water, nutritious food, environmental sanitation and the prevention of disease. Articles 28 and 29 also connect environmental conditions to education, since unsafe, polluted or degraded environments affect school access, attendance, concentration and learning outcomes. In addition, Article 6 on survival and development and Article 12 on the right to be heard support an understanding of children as rights-holders whose present and future lives are directly shaped by environmental harm.

The universal scope of this right was significantly consolidated by the UN General Assembly Resolution 76/300 (2022), which recognized the right to a clean, healthy, and sustainable environment as a universal human right. For children, the Committee on the Rights of the Child further operationalizes this milestone through General Comment No. 26 (2023). This document clarifies that states have a heightened "duty of care" to protect children from environmental degradation, recognizing them as a group with specific physiological and developmental vulnerabilities.

In the normative context, the right to a healthy environment is analyzed through its impact on the following pillars:

- **The Right to Health and Environmental Sanitation (Article 24):** The normative framework shifts from a reactive medical model to a preventive environmental model. It posits that the "highest attainable standard of health" cannot be achieved without addressing environmental determinants, such as air quality and exposure to toxics. The Committee emphasizes that environmental pollution remains one of the largest contributors to global infant mortality and long-term morbidity.
- **The Right to Water, Sanitation, and Hygiene (WASH):** While traditionally nested within the right to health, the universal scope now treats access to safe water as a prerequisite for human dignity. Climate-induced water scarcity and industrial contamination are viewed as direct violations of the State's obligation to ensure the survival and development of the child (Article 6).
- **The Right to Education and Environmental Purpose (Articles 28 & 29):** The framework establishes that education must be both resilient and transformative.
- **Infrastructure:** States are obligated to ensure that schools are safe from environmental hazards and climate disasters.
- **Pedagogy:** Article 29(1)(e) explicitly mandates that education be directed to the "development of respect for the natural environment," establishing environmental literacy as a fundamental right of the child.

The integration of the core principles underlying the right to a healthy environment for children establishes a coherent normative framework that redefines the obligations of states toward present and future generations.

Within this framework, the principles of intergenerational equity and the best interests of the child require that environmental decision-making — including environmental impact assessments and climate policies — go beyond short-term economic considerations and prioritize the long-term physical, mental, and social well-being of children.

This framework is further strengthened by operational principles. The precautionary principle establishes that when environmental risks may threaten children's health or well-being, the absence of full scientific certainty should not be used as a justification to delay protective measures. At the same time, the principle of meaningful participation, grounded in Article 12 of the CRC, recognizes children as active rights-holders capable of contributing to decision-making processes that shape their environmental future.

2.2 Human rights in extractive industries

The regulation of human rights in extractive contexts rests on a "Protect, Respect, Remedy" architecture rather than a single binding treaty. The UN Guiding Principles on Business and Human Rights (UNGPs)¹⁷, unanimously endorsed by the Human Rights Council in 2011, were the first international instrument to assign businesses an explicit responsibility to respect human rights, independent of states' own duties. The Guiding Principles establish that governments must put in place good policies, laws, and enforcement measures to prevent companies from violating rights, that companies must refrain from negatively impacting rights even when governments fail to create or enforce necessary laws, and that victims of corporate abuses must have access to effective remedy. As part of this responsibility, the Guiding Principles require companies to undertake due diligence to identify and manage their negative human rights impacts — a standard particularly demanding in mining and oil operations, where environmental and social impacts on surrounding communities are foreseeable and often severe.

The UNGPs' ambit extends to violations arising from environmental damage in the extractive sector specifically, alongside working conditions and practices throughout supply chains, and they have been widely endorsed by governments and businesses since their adoption. In practice, businesses are expected to consider additional human rights standards to ensure they respect the rights of people who may be disadvantaged, marginalized, or otherwise particularly vulnerable to their impacts — a category the framework explicitly names as including children, women, and indigenous peoples. Because the UNGPs are non-binding "soft law," their practical force in extractive frontiers depends heavily on domestication through National Action Plans (NAPs) on business and human rights, environmental impact assessment regulations, and — critically for this study — the extent to which states and companies apply a child-specific lens to due diligence rather than treating "community impacts" as an undifferentiated category.

17 United Nations Conference on Environment and Development, *Rio Declaration on Environment and Development*, Principle 15 (New York: United Nations, 1992).

At the regional level, the Inter-American Commission on Human Rights (IACHR), together with its Rapporteurship on the Rights of Indigenous Peoples and its Special Rapporteurship on Economic, Social, Cultural and Environmental Rights (REDESCA), has developed the most detailed standards applicable to the Andean Amazon case. In 2015, the IACHR published a thematic report on indigenous peoples, Afro-descendant communities, and natural resources, and the report concludes with practical recommendations aimed at establishing a framework for States to undertake their duty of due diligence, taking all appropriate steps to prevent, investigate, punish, and redress human rights abuses through effective policies, legislation, regulations, and adjudication. The Commission places particular emphasis on the drafting and implementation of domestic legislation to protect human rights, and on establishing monitoring, control, and supervision systems over the activities of extractive or development companies, with recommendations addressed to both host States and states of origin of extractive companies.

The IACHR's more recent practice shows this standard being actively applied to ongoing cases relevant to this study. During a 2023 hearing on the human rights situation of Indigenous peoples in the context of extractive activities in Bolivia, the Commission received information on the effects of mercury contamination on the health, life, food, and healthy environment of Indigenous communities, with petitioners highlighting the differential impact on women, children, and adolescents¹⁸.

In August 2025, the IACHR and REDESCA issued a joint urgent call to States across the continent to protect Indigenous peoples' rights from the impacts of extractive industries, reflecting the Commission's ongoing view that the tension between extractive expansion and Indigenous and child rights protection remains unresolved region-wide. The Commission has also begun to examine the intersection of extractivism with children specifically outside the mining and oil context: a 2022 hearing addressed the human rights situation of Indigenous children and adolescents in boarding schools across the region, where petitioning organizations denounced family separation, a lack of inclusive education, and trauma affecting children and their families, illustrating that Inter-American bodies increasingly treat children's rights in extractive and post-colonial governance contexts as a distinct line of scrutiny rather than a subset of general community impacts.

Taken together, the UNGPs and the Inter-American standards establish a layered division of duties: states retain the primary duty to protect, through licensing, environmental impact assessment, monitoring, and enforcement; businesses hold an independent responsibility to respect, operationalized through human-rights due diligence; and affected communities — including children — retain a right to remedy that neither states nor companies can discharge merely by pointing to the other's obligations. This tripartite structure forms the backbone against which Chapter 4 examines whether Kyrgyzstan and Colombia have actually translated these standards into binding domestic protection for children in extractive frontiers.

18 Mamo, Dwayne, ed. *The Indigenous World 2023*. Copenhagen: International Work Group for Indigenous Affairs (IWGIA), 2023.

2.3 Analytical framework: key concepts and dimensions

This study adopts an analytical framework grounded in international human rights law, environmental law, and child rights standards, enabling a systematic examination of the relationship between environmental degradation, extractive activities, and the rights of children. The framework is structured around five key concepts — healthy environment, harm, due diligence, participation, and remedy — and is operationalized through five analytical dimensions: recognition, protection, participation, accountability, and remedy. Together, these elements provide both a conceptual and methodological basis for assessing State and corporate conduct in Kyrgyzstan and Colombia alike.

A healthy environment is understood as both an autonomous human right and a necessary condition for the realization of a wide range of other rights, encompassing clean air, safe water, non-toxic environments, biodiversity, and climate stability, alongside a biocultural dimension particularly relevant in Indigenous and rural contexts, where territory, identity, and well-being are deeply interconnected¹⁹.

Environmental harm refers to both actual and potential damage to ecosystems that adversely affects the enjoyment of human rights, whether direct (exposure to pollution or hazards) or structural (displacement, loss of livelihoods, cultural disruption). The precautionary principle establishes that the risk of serious or irreversible damage is sufficient to trigger State obligations even absent full scientific certainty, and such harm is typically disproportionate for children given their specific vulnerabilities.

Due diligence, per the UNGPs, requires States to regulate and enforce human rights standards while businesses identify, prevent, mitigate, and account for their impacts — including through environmental and social impact assessments and ongoing monitoring, ideally integrating a child-rights-based approach.

Participation is a procedural right rooted in Article 12 of the CRC, requiring that children's views be given due weight according to age and maturity. At the regional level, the Escazú Agreement strengthens this guarantee by establishing binding obligations on access to information, public participation, and environmental justice in Latin America and the Caribbean²⁰, though it does not apply to Kyrgyzstan, which relies instead on its own constitutional and Aarhus-adjacent framework, examined in Chapter 4.

Remedy ensures access to justice when environmental harm occurs, including compensation, restitution, rehabilitation, and guarantees of non-repetition, which must be accessible, timely, effective, and responsive to children's specific needs.

19 United Nations General Assembly. *Resolution 76/300: The Human Right to a Clean, Healthy and Sustainable Environment*. A/RES/76/300. New York: United Nations, 2022.

20 United Nations Economic Commission for Latin America and the Caribbean. *Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement)*. Santiago: United Nations, 2018.

These five concepts are operationalized through the following analytical dimensions, applied consistently to both cases in Chapters 4 through 6:

1. **Recognition:** the extent to which legal and policy frameworks explicitly acknowledge the right to a healthy environment and the differentiated status of children as rights-holders, including constitutional provisions and the incorporation of international standards.
2. **Protection:** the measures adopted to prevent environmental harm, including environmental and social impact assessments, application of the precautionary principle, and the effectiveness of monitoring and enforcement mechanisms for vulnerable populations.
3. **Participation:** the availability and effectiveness of mechanisms enabling children and communities to engage in environmental decision-making, including access to information and the inclusiveness of consultation processes.
4. **Accountability:** the mechanisms through which States and businesses are held responsible for environmental harm, including judicial and administrative remedies, grievance mechanisms,¹⁹ and sanctions.
5. **Remedy:** the effectiveness of responses to environmental harm, including compensation, restoration, rehabilitation, and guarantees of non-repetition, with attention to child-sensitive approaches.

Across all dimensions, the framework is guided by cross-cutting principles: the best interests of the child, intergenerational equity, non-discrimination, intersectionality, a biocultural understanding of territory, and the precautionary principle. Together, they provide a common analytical lens for examining Kyrgyzstan and Colombia despite their different legal traditions and regional human rights regimes.

3. Methodology

3.1 Research design

This study adopts a comparative qualitative case study design, examining two regional cases — Central Asia and the Andean Amazon — through embedded country, and site-level units of analysis. Comparative case study design is appropriate here because the research questions require not simply describing impacts within a single setting, but identifying which patterns of harm, legal recognition, and civil society response are common across very different political, cultural, and legal systems, and which are specific to one context. Embedding a sub-national site within each country case (rather than treating "Kyrgyzstan" or "Colombia" as undifferentiated national units) allows the analysis to capture the concrete mechanisms of harm and response that operate at the level where extraction actually occurs, while still permitting comparison at the country and regional level for the legal-framework and civil-society questions (RQ2 and RQ3).

3.2 Unit of analysis and case selection

The two regional cases are not symmetrical in scale, and this asymmetry is intentional rather than a design flaw: it reflects the different ways extraction is organized in each region.

- Central Asia case:** Kyrgyzstan, examined through two illustrative extractive sites — the Khaidarkan mercury mining area and the Terek-Sai gold mining area — with the Kumtor gold mine used as a secondary reference point for cryosphere-related impacts (glacier retreat and downstream water security). Kyrgyzstan was selected because it combines active artisanal and industrial mining, a codified child-rights framework (the Children's Code), and a documented history of UN scrutiny connecting extractive-sector dependence to children's rights, including the recommendations of the UN Special Rapporteur on extreme poverty explicitly linking Kyrgyzstan's shift away from an extractive-dependent economy to the realization of children's rights to education, health, and decent work, making it possible to assess the gap between formal recognition and enforcement²¹.
- Andean Amazon case:** Colombia, examined through the municipality of Puerto Guzmán, Putumayo, as the primary site-level case, situated within the broader national legal and policy framework for children's rights and extractive governance. Puerto Guzmán was selected because it combines three features rarely found together in a single site: (i) active alluvial gold mining and oil extraction pressures, (ii) a young demographic profile with documented child-specific health risks (mercury exposure, waterborne disease), and (iii) a post-peace-agreement conflict dynamic in which illegal armed groups use extraction as a mechanism of territorial control²²— allowing the case to capture the compounding effect of extractivism and conflict on children's rights, which is largely absent from the Kyrgyz case. Ecuador (the 2018 girls' litigation against gas flaring, discussed in Chapter 5) and national-level Colombian jurisprudence (the STC4360-2018 Amazon rights-of-nature ruling) are used as illustrative comparative reference points rather than as full embedded cases, since neither involves the same depth of site-level documentation available for Puerto Guzmán.

Across both regions, case selection followed four convergent criteria: (1) documented presence of child-focused or environmental litigation or advocacy; (2) significant Indigenous, Afro-descendant, or rural populations directly exposed to extractive operations; (3) sufficient scale and duration of extraction to generate observable, documented impacts on health, education, or water access; and (4) availability of sufficient secondary documentation (legal texts, NGO and international-body reporting, environmental data) to support a desk-based comparative analysis within the study's time frame.

21 De Schutter, Olivier. *Visit to Kyrgyzstan: Report of the Special Rapporteur on Extreme Poverty and Human Rights*. A/HRC/53/33/Add.1. Geneva: United Nations Human Rights Council, 2023. <https://www.ohchr.org/en/documents/country-reports/ahrc5333add1-visit-kyrgyzstan-report-special-rapporteur-extreme-poverty>.

22 Sierra, María Paula. "Minas antipersonal en Puerto Guzmán: La herida sigue abierta." Consonante, November 24, 2025.

3.3 Data collection

Given the time constraints and desk-based nature of this study, data collection relies on three complementary sources:

1. Document analysis, the primary method used throughout the study: national constitutions, legislation, and codified child-rights instruments (e.g., the Children's Code of the Kyrgyz Republic; Colombia's Law 1098 of 2006); environmental and mining regulations; National Action Plans (NAPs) on business and human rights where they exist; corporate sustainability and CSR reports of companies operating at the case sites (e.g., Libero Cobre in Putumayo, Centerra Gold/Kumtor Gold Company in Kyrgyzstan); and reports by NGOs, UN treaty bodies, the IACHR/REDESCA, and international organizations (UNICEF, UNEP, ILO).
2. Secondary environmental and epidemiological data, drawn from published sources where available — for example, UNEP mercury contamination assessments, WHO air-pollution and child-health data, and Colombian state or academic reporting on heavy-metal contamination in the Caquetá and Putumayo river basins — used to corroborate qualitative claims of health impact rather than to generate new epidemiological findings.
3. Key informant interviews are not conducted as part of this study, given the time frame and access constraints in conflict-affected and remote mining areas; where the analysis refers to community or child perspectives, it relies on interviews and testimonies already published by NGOs, journalists, and international bodies, cited to their original source. This is a limitation of the study, noted explicitly in the Conclusion, and a natural extension for future research with the necessary time, local partnerships, and ethical clearance.

3.4 Data analysis

Data analysis follows a thematic coding procedure structured around the five analytical dimensions developed in Section 2.3 (recognition, protection, participation, accountability, remedy). Each document or source is coded first for the analytical dimension(s) it speaks to, and second for the right at stake (health, education, or clean water, corresponding to RQ1). Coded material is then organized into a cross-case comparison matrix contrasting Kyrgyzstan and Colombia/Puerto Guzmán across each dimension, which forms the basis for the synthesis presented in Chapter 6. This structured approach is intended to keep the comparison systematic despite the asymmetry in unit scale described in Section 3.2, by anchoring both cases to the same five dimensions regardless of whether the underlying evidence is national-level (legal frameworks) or site-level (documented impacts).

3.5 Ethical considerations

Because this study relies exclusively on secondary sources and does not involve direct research with children, no primary informed-consent procedures were required. Nonetheless, the study adopts the following ethical safeguards appropriate to research about children in conflict- and extraction-affected communities:

- **Do-no-further-harm principle:** no identifying details of individual children are reproduced beyond what is already public in cited sources, and no attempt is made to independently verify or add to identifying information about minors named in NGO or journalistic reporting.
- **Source scrutiny:** given the sensitivity of reporting from conflict-affected areas (Puerto Guzmán) and from a context of shrinking civic space (Kyrgyzstan), sources are cross-checked against at least one independent corroborating source where claims are extraordinary or where a single NGO or advocacy source might have an interest in overstating impact.
- **Representational care:** children are treated throughout as rights-holders rather than solely as victims, consistent with the CRC's participatory principle (Article 12) and the analytical framework's participation dimension, to avoid reproducing the very passive-victim framing the study critiques in Chapter 1.

4. Context: extractive sectors and child-relevant impacts

4.1 Central Asia (Kyrgyzstan)

4.1.1 Political-economic overview

Kyrgyzstan's economic architecture is underpinned by a structural dependence on extractive industries — particularly gold and mercury mining — which form the core of its national development strategy but operate under a "growth without trickle-down" model. High-risk operations include the Khaidarkan mercury mines and the Terek-Sai gold pits (UNEP, UNITAR, & Zoï Environment Network, 2009), alongside the larger Kumtor gold mine, whose waste-rock deposition onto the Davidov and Lysii glaciers has accelerated glacial retreat and compromised the region's long-term water reserves (GlacierHub, 2014; CEE Bankwatch Network, 2023).

Kyrgyzstan's participation in the Extractive Industries Transparency Initiative (EITI, 2026) reveals a critical gap between revenue generation and investment in the social fabric. Although the country has made progress in publishing financial flows, a structural disconnection persists in the redistribution of extractive rents toward local public services.

This disconnect was directly confirmed by the UN Special Rapporteur on extreme poverty and human rights, who visited Kyrgyzstan in 2022 and found that strengthened social protection, better wages, decent jobs, elimination of child labour, and better-quality education were needed to allow the country to move away from an economic model highly dependent on extractive industries, tourism, and remittances (De Schutter, 2023).

4.1.2 Environmental and social impacts on children

From an environmental health perspective, evidence from Khaidarkan and Terek-Sai demonstrates that chronic exposure to heavy metals and chemical agents (mercury, cyanide, lead dust) directly threatens the right to the highest attainable standard of health (UNEP, UNITAR, & Zoï Environment Network, 2009). Because of children's faster metabolism and developing neurological systems, absorption of these toxins produces irreversible cognitive damage and neuro developmental disorders (World Health Organization [WHO], 2017).

The social dimension of these impacts compounds the environmental one. In communities such as Terek-Sai, mining-related blasting has caused direct structural damage to educational infrastructure: in the spring of 2022, the roof of a local school collapsed as a result of blasting impact from nearby mining operations, with the company denying responsibility and local teachers describing the shock experienced by children present at the time (Tuninetti, 2022). This turns educational spaces into sites of physical risk, compounded by the erosion of traditional livelihoods that weakens the social fabric families rely on.

A distinctive aggravating factor in the Kyrgyz context is the direct intervention in the cryosphere at Kumtor. The operating company acknowledged in its own 2012 environmental report that it had deposited waste rock directly onto the Davidov and Lysii glaciers, with an estimated 147 million tonnes of ice removed between 1995 and 2026; without this glacial ice, the Naryn and Syrdarya rivers that supply the wider region risk running dry during the hottest summer months (GlacierHub, 2014). A Bishkek court ordered the company in 2021 to pay approximately USD 3.2 million in damages for harm to these glaciers (CEE Bankwatch Network, 2023). For children in downstream basins, this represents a threat not only to immediate water quality but to future water security and climatic stability (Committee on the Rights of the Child [CRC Committee], 2023).

4.1.3 Legal and policy responses

Kyrgyzstan's domestic framework for children's rights is comparatively well codified on paper. The Constitution of the Kyrgyz Republic establishes that human rights and freedoms are the highest value and are directly applicable (Art. 23), recognizes the right of everyone to an environment favorable to life and health and to compensation for environmental damage

(Art. 48), and affirms the State's duty to ensure children's development and well-being (Art. 36). Ratified international treaties form part of the domestic legal order and prevail over conflicting national legislation (Art. 6) — a provision that functions as a de facto constitutional block, giving direct domestic effect to the Convention on the Rights of the Child (acceded to in 1994), its Optional Protocols, the ICCPR, the ICESCR, and CEDAW. At the statutory level, the Children's Code of the Kyrgyz Republic (2012) operationalizes these obligations, establishing the principle of comprehensive protection of children's rights²³.

This codified framework is complemented by Kyrgyzstan's broader labour, criminal, and family law framework, which together form the national child-protection architecture. Specific labour norms prohibit hazardous work for under-18s and regulate minimum working age, but gaps remain: the minimum working age is still below the age of compulsory education, and protections do not clearly cover children working without formal contracts — common in informal and seasonal mining-adjacent work²⁴.

The recognition-implementation gap becomes sharper in environmental and mining regulation specifically. Environmental and mining laws formally address health, safety, and environmental protection, yet enforcement around mining sites is weak.

National social-protection and poverty-reduction policies recognize child poverty and call for improved education and the gradual elimination of child labour, but the country's growth model remains heavily dependent on extractives, tourism, and remittances, limiting structural shifts toward child-centred development²⁵. Reforms proposed by the UN Special Rapporteur on extreme poverty explicitly link a shift away from extractive-dependence with the realization of children's rights to education, health, and decent work, recommending stronger child benefits, higher wages, and elimination of child labour — recommendations the State has not yet structurally implemented.

Perhaps the clearest gap is the near-absence of a child-specific lens in licensing and impact-assessment procedures. The State's child-labour response operates through inspections, individual protection plans, and rehabilitation services for identified working children, but identified cases represent a fraction of the estimated scale, and monitoring in remote mining-affected communities remains thin. There is little evidence of systematic child-rights impact assessments for mining projects, or of integrating CRC standards into licensing, EIA procedures, or local benefit-sharing schemes around mines — precisely the gap the analytical framework in Section 2.3 identifies as the "protection" dimension.

23 Kyrgyz Republic. Fifth Periodic Report on the Implementation of the Convention on the Rights of the Child, 2014–2019. Geneva: United Nations, 2019.

24 U.S. Department of Labor, Bureau of International Labor Affairs. 2018 Findings on the Worst Forms of Child Labor: Kyrgyz Republic. Washington, DC: U.S. Department of Labor, 2019.

25 De Schutter, Olivier. Visit to Kyrgyzstan: Report of the Special Rapporteur on Extreme Poverty and Human Rights. A/HRC/53/33/Add.1. Geneva: United Nations Human Rights Council, 2023.

On a more positive note, recent climate and environmental initiatives increasingly frame children and youth as participants in environmental governance rather than passive subjects: youth climate caravans and regional youth statements link climate change, pollution, and justice, calling for youth inclusion in water management, glacier monitoring, and adaptation policy — a framing that is beginning to appear, still marginally, in Kyrgyz climate policy debates.

4.2 Andean Amazon: Puerto Guzmán, Colombia

4.2.1 Political-economic overview

Colombia's economy has historically relied on extractive sectors such as oil, coal, and gold, promoted as engines of economic growth and public revenue; however, their benefits remain unevenly distributed and often fail to improve living conditions in extraction zones. In regions such as La Guajira, Cesar, Meta, Putumayo, Chocó, and the Amazon, extractive expansion has been closely linked to socio-environmental conflicts, water contamination, loss of livelihoods, and increased pressure on Indigenous, Afro-descendant, and peasant territories. This reflects a structural contradiction: while extractive rents sustain national income, communities in areas of direct influence continue to experience poverty, food insecurity, and limited access to essential services such as healthcare, water, and education — a disparity particularly evident in La Guajira, where coal extraction coexists with severe humanitarian conditions affecting Wayuu children, including malnutrition and water scarcity²⁶.

Puerto Guzmán, Putumayo — the primary site case for this study — sits within this national pattern but adds a conflict dimension largely absent elsewhere. Like much of rural Putumayo, Puerto Guzmán has a comparatively young population structure, making children and youth particularly exposed to the environmental degradation and territorial-control dynamics associated with illegal mining, oil-adjacent activity, and deforestation. Following the decline of the coca economy, illegal armed groups have increasingly turned to mining as a mechanism of territorial control and recruitment, with young people often perceiving these structures as one of the few available livelihood options — a dynamic mirrored nationally, where the Committee on the Rights of the Child has recently raised direct concern with the Colombian State over the recruitment of children by armed groups operating in extraction-adjacent territories²⁷.

²⁶ Colombia, Corte Constitucional, *Sentencia T-302 de 2017* (Bogotá: Corte Constitucional de Colombia, 2017).

²⁷ Human Rights Watch. "Colombia: Los grupos armados someten a las comunidades en Putumayo." *Human Rights Watch*, December 5, 2025.

4.2.2 Environmental and social impacts on children

From an environmental health perspective, extractive activities disproportionately affect children due to their heightened vulnerability to pollutants; exposure to particulate matter, heavy metals, and hydrocarbons is associated with respiratory, neurological, and gastrointestinal disease²⁸. In gold-mining regions, particularly the Pacific and Atrato River basin, mercury contamination represents a critical risk to food security and early-childhood neurological development, and the Atrato River crisis has been recognized by Colombia's Constitutional Court as a human rights emergency linked to illegal mining and weak environmental governance²⁹. Oil extraction in Putumayo specifically has generated contamination, ecosystem degradation, and socio-territorial conflict, directly affecting Indigenous communities' access to water, health, and cultural continuity.

In Puerto Guzmán, the most critical documented risk is systemic exposure to heavy metals, especially mercury used in alluvial gold mining. Mercury crosses the placental barrier, causing irreversible neurological damage in fetuses, while chronic childhood exposure produces developmental delays, cognitive impairments, and motor dysfunction. Elevated levels of arsenic and lead have also been identified in soils and water sources across the Caquetá and Putumayo river basins, posing serious risks to children's renal and immune systems, and mining activity generates stagnant water bodies and abandoned infrastructure that facilitate the spread of infectious disease.

These environmental risks are compounded by a context of violence. Following the Colombian Peace Agreement, Puerto Guzmán has experienced increased insecurity, including the presence of anti-personnel mines that severely restrict children's mobility and have caused physical and psychological harm. Extractive dynamics are further reinforced through corporate strategies targeting children — recreational programs and material support provided by companies — which, while offering short-term benefits, are also perceived locally as mechanisms to reduce community resistance, generating social fragmentation.

Finally, large-scale deforestation driven by cattle ranching and mining undermines both children's right to a healthy environment and their cultural continuity: river contamination has reduced fishing, a primary protein source for rural and Indigenous families, while forest degradation disrupts traditional territorial practices, limiting the intergenerational transmission of knowledge and weakening cultural identity — the same biocultural harm captured as a cross-cutting principle in Section 2.3.

28 World Health Organization, *Inheriting a Sustainable World? Atlas on Children's Health and the Environment* (Geneva: World Health Organization, 2017).

29 Colombia. Corte Constitucional. *Sentencia T-622 de 2016*. Bogotá: Corte Constitucional de Colombia, 2016

4.2.3 Legal and policy responses

Children's rights in Colombia are grounded in a layered normative framework combining constitutional provisions, statutory law, and international human rights instruments, structured around a comprehensive protection approach in which children are recognized as full rights-holders rather than passive recipients of assistance. The Constitution of Colombia (1991) enshrines, in Article 44, the prevalence of children's rights over the rights of others, recognizing guarantees including life, physical integrity, health, balanced nutrition, education, and family life. At the statutory level, Law 1098 of 2006 (Código de la Infancia y la Adolescencia) develops this approach and establishes guiding principles — best interests of the child, co-responsibility, and participation — while organizing the institutional framework responsible for enforcing children's rights, principally through the National Family Welfare System (SNBF) led by the ICBF (Colombian Family Welfare Institute). Colombia has also incorporated the CRC as part of the constitutional block, and the Constitutional Court has consistently affirmed children as subjects of special constitutional protection, requiring differentiated measures in contexts of vulnerability, particularly in ethnically and territorially sensitive regions such as the Amazon.

Regarding the specific intersection with extractive industries, Colombia became the first country in the Americas to adopt a National Action Plan on Business and Human Rights, launched in December 2015 and updated in 2020³⁰. Mining and energy was one of three business sectors prioritized in the 2015 NAP as generating disproportionate social conflict, and the Plan explicitly incorporated differential perspectives to guarantee the human rights of children and adolescents, alongside women, ethnic groups, and other groups, within mining-affected territories.

The 2015 NAP also mandated the Ministry of Mines and Energy³¹ to build a human-rights risk map for the sector in prioritized territories and to align mining practice with the Extractive Industries Transparency Initiative (EITI:2018). In relation to Indigenous and Afro-descendant communities specifically, Colombian law requires free, prior and informed consultation, grounded in ILO Convention 169, before extractive projects proceed in their territories — a mechanism the Constitutional Court has repeatedly used to halt or condition mining and oil projects, though implementation gaps remain widely documented, particularly regarding whether consultation processes meaningfully incorporate children's and youth's own views rather than only those of adult community representatives.

30 Colombia. Presidencia de la República. Consejería Presidencial para los Derechos Humanos. *Plan Nacional de Acción en Derechos Humanos y Empresas (Colombia Avanza)*. Bogotá: Presidencia de la República, 2015.

31 Global NAPs Database. "Colombia: Guidance to Business." Business & Human Rights Resource Centre and Danish Institute for Human Rights. Accessed July 16, 2026. <https://globalnaps.org/country-issue/colombia-guidance-to-business/>

Despite this comparatively developed normative architecture, the same recognition–implementation gap identified in Kyrgyzstan (Section 4.1.3) reappears in the Colombian case. In its most recent review of Colombia, in early 2026, the UN Committee on the Rights of the Child explicitly asked the State what measures had been adopted to ensure that business–sector activities, including extractive industries, fully respect children's rights — while commending Colombia's child-focused climate action, the Committee simultaneously raised concerns about the recruitment of children by armed groups and about children in institutional care, signaling that the extractive–conflict nexus documented in Puerto Guzmán remains an unresolved area of state accountability rather than a settled one.

As in Kyrgyzstan, environmental licensing and impact–assessment procedures for mining and oil projects do not incorporate a child-specific due-diligence lens: environmental impact assessments (EIAs) required under Colombian law focus on ecosystem and community-level impacts broadly, with no standard requirement to assess differentiated risks to children's health, education, or development before a license is granted — precisely the "protection" gap the analytical framework in Section 2.3 is designed to make visible.

4.3 Cross-regional patterns – convergence and divergences

The Central Asian and Andean Amazon cases reveal a pattern of convergent structural harms produced through divergent mechanisms — a distinction that matters directly for RQ1, since it shows that the right being violated is often the same, even where the pathway of violation differs.

Convergence 1: extraction without redistribution. In both regions, extractive rents sustain macroeconomic indicators — export revenue, government income, GDP share — without a corresponding investment in the social infrastructure of the communities where extraction occurs. In Kyrgyzstan, the extractive sector generates over 60% of export revenue and roughly 13% of GDP (World Bank, 2023), while historically employing less than 1% of the national labour force (EITI, 2011) — with rural municipalities around sites like Kumtor lacking budgets to modernize pediatric clinics or water systems.

In Colombia, the same disconnect is visible in Puerto Guzmán and nationally in La Guajira, where coal extraction coexists with documented malnutrition and water scarcity among Wayuu children³². This is not a regional idiosyncrasy: it mirrors a global pattern in which mineral-rich territories bear the environmental cost of extraction while receiving a disproportionately small share of its economic benefit.

32 Colombian Constitutional Court. (2017). Sentencia T-302 de 2017. Corte Constitucional de Colombia.

Convergence 2: absence of a child-specific due-diligence lens. Neither state has integrated child-rights impact assessment into mining or oil licensing. Kyrgyzstan's environmental and mining laws formally address health and safety but are not enforced with a childhood-sensitive lens; Colombia's environmental impact assessment procedures and even its comparatively advanced 2015/2020 Business and Human Rights NAP name children as a "differential perspective" without operationalizing concrete, binding assessment requirements. This convergence supports a central claim for RQ2: recognition of children as rights-holders in extractive-sector policy is, in both regions, aspirational rather than procedural.

Convergence 3: heavy-metal exposure as the dominant physical pathway of harm. Mercury is the through-line connecting both cases — used in Kyrgyzstan's Khaidarkan mines and in Colombian alluvial gold mining in Putumayo and the Atrato basin alike — and this is not coincidental. Mercury-based amalgamation remains standard practice across the world's artisanal and small-scale mining (ASM) sector, which the ILO estimates involves roughly one million children globally, a form of labour explicitly classified as one of the "worst forms of child labour" under ILO Convention No. 182. Because children's faster metabolisms absorb proportionally more of a given toxic dose than adults, this single, globally common practice explains why nearly identical neurodevelopmental harms (cognitive impairment, motor dysfunction, immune suppression) appear in the case documentation for both Kyrgyzstan and Puerto Guzmán despite the two sites being thousands of kilometers apart and embedded in unrelated legal systems.

Divergence 1: the nature of the environmental hazard. In Kyrgyzstan, the dominant environmental threat operates through the cryosphere — glacial retreat at Kumtor threatens long-term water security for downstream populations, a slow-onset, climate-linked hazard. In the Andean Amazon, the dominant threat operates through deforestation and river-basin contamination — a more immediate, visible form of ecosystem loss that also erodes food security (through reduced fishing) and cultural continuity (through loss of territory-based knowledge transmission). This divergence matters analytically because it means "protection" (Dimension 2 of the framework in Section 2.3) requires different regulatory instruments in each context: cryosphere and water-security monitoring in Kyrgyzstan versus deforestation control and river-basin contamination monitoring in Colombia.

Divergence 2: conflict as a harm multiplier. The Andean Amazon case carries a dimension almost entirely absent from the Central Asian case: extraction operating inside an active or post-conflict armed-actor economy. In Puerto Guzmán, illegal armed groups use both mining and the residual coca economy for territorial control, anti-personnel mines restrict children's physical mobility, and the UN Committee on the Rights of the Child has directly raised concern with Colombia over child recruitment by armed groups in extraction-adjacent territories.

No comparable armed-conflict dynamic complicates the Kyrgyz case, where the principal aggravating factor is instead a shrinking civic space that constrains independent monitoring and advocacy (discussed further in Chapter 5) rather than physical violence against children themselves.

Divergence 3: civic and legal tools available to challenge State failure. Colombian civil society has access to a comparatively strong domestic judicial toolkit — constitutional *tutela* actions, the Constitutional Court's recognition of children's standing, and mandatory prior consultation grounded in ILO Convention 169 — that has no real equivalent in Kyrgyzstan, where advocacy relies more heavily on treaty-body submissions and NGO monitoring reports precisely because domestic litigation channels comparable to Colombia's *tutela* are not part of the legal culture. This divergence is explored in depth in Chapter 5 as the empirical basis for RQ3.

A converging future pressure: the global critical-minerals race. Both regions are positioned to face intensifying rather than diminishing extractive pressure. Global demand for critical minerals is projected to rise sharply as the energy transition accelerates, and recent tracking data documents a 73% year-on-year increase in human rights abuse allegations linked to transition-mineral mining in 2025 alone, with Indigenous communities bearing a disproportionate share of the harm. Because an estimated 54% of energy-transition mineral projects worldwide are located on or near Indigenous peoples' land³³, and because neither Kyrgyzstan's nor Colombia's legal framework has yet closed the child-specific due-diligence gap identified above, this global trend suggests that the structural harms documented in both cases in this chapter are likely to intensify rather than resolve on their own — reinforcing the urgency of the legal and civil-society responses examined in the remaining chapters.

5. Children's agency, civil society advocacy, and access to remedy.

5.1 Civil society advocacy strategies

In Kyrgyzstan, NGOs, coalitions, and trade unions rely on several primary strategies to challenge State failures in protecting children in hazardous work and polluted environments around extractive sites³⁴. The first is human rights and child-labour monitoring, producing alternative reports on child labour and the right to work submitted to international bodies and donors, documenting the gap between law and practice. The second is legal advocacy through international mechanisms, using submissions to UN treaty bodies and special procedures to highlight child labour, environmental degradation, and poverty in mining zones, pushing the State to accept concrete recommendations.

33 Cultural Survival. "2025 Transition Minerals Tracker Underscores the Disproportionate Impact of Mining for Transition Minerals on Indigenous Communities." Cultural Survival, May 9, 2025.

34 Tian Shan Policy Center. (2015). Central Asia Policy Review (Vol. 1, No. 1). American University of Central Asia.

The third is community-level mobilization and awareness-raising, where social workers and NGOs distinguish "labour education" from exploitative child labour, press for enforcement of existing laws, and demand local services such as kindergartens and safe play spaces.

Environmental and climate-justice groups — including initiatives campaigning around air pollution in Bishkek — increasingly frame clean air and a healthy environment as fundamental rights, linking extractive and energy policy to children's health and future, a rights-based framing gaining visibility in national discourse³⁵. Trade unions in the mining and metallurgical sector act as quasi-watchdogs over business conduct, negotiating safer conditions and formalization of informal workers; while their primary focus is adult workers, such gains indirectly benefit miners' children through income security and reduced occupational risk. Civil society, however, operates under shrinking civic space and foreign-agent-style regulation that constrain long-term rights-based campaigning in sensitive sectors such as mining, and child-specific advocacy remains fragmented — environmental groups, labour organizations, and child-rights NGOs typically work in parallel rather than through an integrated "children in extractives" agenda linking the CRC, business and human rights standards, and climate justice.

In the Andean Amazon (Colombia/Puerto Guzmán), civil society relies on a different mix of strategies, combining strategic litigation, Indigenous-led environmental monitoring, and international advocacy to compensate for weak enforcement. The most consequential is strategic climate litigation: in 2018, Dejusticia supported 25 children and young people, aged 7 to 25, in filing a constitutional tutela action arguing that rising Amazon deforestation violated their rights to life, health, food, water, and a healthy environment³⁶. The Supreme Court's resulting ruling, STC4360-2018, was the first lawsuit of its kind filed by children in Colombia on climate change and the rights of future generations, confirming children's legal standing and recognizing the Colombian Amazon itself as a subject of rights. A second strategy is Indigenous-led environmental monitoring: in Putumayo, Indigenous women organize to plant trees, monitor river water quality, and run environmental education campaigns, treating basic water-testing as both protection and advocacy³⁷.

A third strategy involves regional and international human rights advocacy, through organizations such as OPIAC using the UN Permanent Forum on Indigenous Issues and IACHR hearings to pressure the State over legal and illegal mining impacts, with international NGOs monitoring Amazon extractive impacts have provided platform access to Indigenous representatives at international forums.

35 United Nations in Kyrgyz Republic. (2024, September 6). Kyrgyzstan's youth prepared a statement on climate change. United Nations Kyrgyzstan.

36 Colombia, Corte Suprema de Justicia, Sala de Casación Civil, Sentencia STC4360-2018 (Radicación n.º 11001-22-03-000-2018-00319-01) (Bogotá: Corte Suprema de Justicia de Colombia, 2018), <https://cortesuprema.gov.co/corte/wp-content/uploads/2018/04/STC4360-2018-2018-00319-011.pdf>.

37 Bermúdez Liévano, A. (2025, January 8). Indigenous communities come together to protect the Colombian Amazon. Mongabay. <https://news.mongabay.com/2025/01/indigenous-communities-come-together-to-protect-the-colombian-amazon/>

A fourth, more confrontational strategy is direct public denunciation: in 2023, the Buenavista Reservation of the Siona People publicly denounced a "Strategic Alliance" between UNDP and the oil company GeoPark, launched without consulting communities long resisting the company's operations in Putumayo³⁸. Civil society here operates under severe structural constraints: Colombia has been identified as the country with the highest documented number of killings of environmental and territorial rights defenders, and in Puerto Guzmán specifically, illegal armed groups and anti-personnel mines restrict both organizing and children's basic mobility³⁹.

Compared side by side, Kyrgyzstan's advocacy is channeled mainly through formal monitoring reports, UN treaty-body submissions, and trade unions operating within a shrinking but still largely non-violent civic space, whereas Colombian/Amazonian civil society relies more heavily on judicialization (strategic litigation) and Indigenous self-organized monitoring, operating under a layer of physical risk from armed conflict largely absent from the Central Asian case. This divergence directly answers RQ3: where formal legal channels for direct litigation are weak or unfamiliar (Kyrgyzstan), advocacy shifts toward international reporting and monitoring; where those channels exist and are comparatively well developed (Colombia), advocacy shifts toward the courts — but in both cases, State failure to protect is the shared starting condition civil society is organizing around.

5.2 Children's voices and mobilisation

Beyond organized civil society, children and youth have themselves become direct legal and political actors in both regions, though the scale and visibility of this mobilization differs sharply.

The clearest illustrative case sits within the Andean Amazon region, in Ecuador rather than Colombia, and is used here — consistent with Section 3.2 — as a comparative reference point rather than a full embedded case. In February 2020, nine girls and young women from the oil-affected provinces of Sucumbíos and Orellana, aged 9 to 14 at the time of filing, sued the Ecuadorian state and state oil company PetroAmazonas to demand the elimination of "flares of death" — gas-flaring stacks burning at roughly 400°C near residential areas — arguing violations of their rights to health, water, food sovereignty, and a healthy environment⁴⁰.

38 Amazon Frontlines, "The Buenavista Reservation of the Siona People and Civil Society Human Rights Organizations Celebrate the Cancellation of the 'Strategic Alliance' between UNDP-Colombia and GeoPark Oil Company," *Amazon Frontlines*, May 2021.

39 Global Witness. "More Than 2,100 Land and Environmental Defenders Killed between 2012 and 2023." *Global Witness*, September 10, 2024.

40 Herrera Carrión et al. v. Ministry of the Environment et al. (Caso Mecheros), Provincial Court of Justice of Sucumbíos, Ecuador (2021). Climate Litigation Database. <https://climatecasechart.com/non-us-case/herrera-carrion-et-al-v-ministry-of-the-environment-et-al-caso-mecheros/>

After an initial injunction was denied, the girls appealed, and on January 26, 2021, the Sucumbíos Provincial Court ruled in their favor, finding that the Ecuadorian state had ignored their right to live in a healthy and ecologically balanced environment. The July 2021 final ruling ordered the gradual, prioritized elimination of flares near population centers. The case is significant for RQ1 and RQ3 alike: it was built on two years of health documentation compiled by local NGOs (UDAPT and Clínica Ambiental) recording 251 cancer cases in the affected population, and it shows child plaintiffs functioning not as passive beneficiaries of adult-led litigation but as named parties whose personal testimony anchored the legal argument⁴¹. However, as documented in a 2024 Amnesty International follow-up report, the Ecuadorian state has only partially complied with the ruling years later, illustrating a recurring pattern across both regions: judicial victories for children do not automatically translate into implementation.

In the Andean Amazon case proper, Colombian youth from Puerto Guzmán and the wider Amazon region have similarly emerged as central actors rather than bystanders in the STC4360-2018 litigation discussed in Section 5.1 — the case was filed by children and young people as named plaintiffs, not filed on their behalf by adult proxies, mirroring the Ecuadorian pattern of direct child standing.

In Kyrgyzstan, child and youth mobilization takes a less litigious and more declaratory form, consistent with the weaker domestic litigation culture noted in Section 4.1.3. Rather than filing lawsuits, Kyrgyz youth have participated in climate caravans and issued public statements — including a 2024 youth statement coordinated with the UN in the Kyrgyz Republic — explicitly linking climate change, pollution, and intergenerational justice, and calling for youth inclusion in water management, glacier monitoring, and adaptation policy. While this is a lower-intensity form of mobilization than Ecuadorian or Colombian litigation, it nonetheless reflects the same underlying claim: that children and youth are entitled to be heard as stakeholders in decisions about extractive and environmental policy, not merely protected as its beneficiaries.

5.3 Participation in decision-making

Formally, children's right to participate in environmental decision-making is well established: Article 12 of the CRC requires that children's views be given due weight according to age and maturity, and General Comment No. 26 extends this principle explicitly to environmental governance, including impact assessments and climate policy. In the Andean Amazon region,

⁴¹ Amnesty International, *The Amazon Is Burning, the Future Is Burning! Young Activists Defending the Ecuadorian Amazon from Gas Flares That Threaten Rights Now and in the Future*, AMR 28/8280/2024 (London: Amnesty International, 2024), <https://www.amnesty.org/en/documents/amr28/8280/2024/en/>.

reinforced by the Escazú Agreement, which establishes binding regional obligations on access to information, public participation, and environmental justice in Latin America and the Caribbean — the first binding international treaty in the world to include specific protections for environmental human rights defenders⁴². Colombia ratified Escazú, giving these participatory guarantees domestic legal force; Kyrgyzstan, lying outside the agreement's regional scope, relies instead on more limited constitutional and administrative consultation provisions.

In practice, however, both cases show a substantial gap between this formal entitlement and actual practice, and the gap is structurally similar in both regions even though the underlying consultation mechanism differs. In Colombia, the primary vehicle for community input into extractive projects is prior consultation (*consulta previa*) with Indigenous and Afro-descendant communities, grounded in ILO Convention 169; the Constitutional Court has repeatedly used this mechanism to condition or halt mining and oil projects. Yet documented implementation gaps are widespread, and — critically for this study — consultation processes are designed around adult community representatives and authorities, with no standard requirement that children's or youth's own views be solicited directly, even though *consulta previa* is precisely the procedural moment at which the "protection" and "participation" dimensions of the analytical framework (Section 2.3) should intersect.

In Kyrgyzstan, environmental and mining licensing processes involve public notice and comment procedures, but civil society reporting indicates these are poorly attended and weakly enforced in remote mining-affected communities, and there is no equivalent to Escazú's explicit protections for participation by children or by the defenders who might otherwise advocate on their behalf.

A further barrier common to both regions is information asymmetry: environmental impact assessments and mining feasibility studies are technical, lengthy documents rarely translated into accessible or age-appropriate formats, meaning that even where consultation forums nominally exist, children lack a genuine channel to exercise the Article 12 right in a meaningful way. Where children's participation does appear in the record — the Ecuadorian and Colombian litigation discussed in Section 5.2 — it is channeled through the judiciary rather than through the administrative consultation and licensing processes that actually determine whether and how extraction proceeds, suggesting that formal participation mechanisms in both regions currently function better as an accountability backstop than as a genuine upstream decision-making input.

42 United Nations Economic Commission for Latin America and the Caribbean. (2018). Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement). ECLAC/United Nations.

5.4 Remedies and accountability mechanisms

The availability of remedy differs markedly between the two cases, tracking the divergence in legal culture identified in Section 4.1.3–4.2.3.

Judicial remedies are considerably more developed in the Andean Amazon case. Colombia's constitutional *tutela* action — a fast, low-cost mechanism designed for the direct protection of fundamental rights — has proven usable by child claimants, as shown by STC4360–2018, and Colombian⁴³ courts have additionally used the Atrato River ruling (recognizing the river as a subject of rights) as a template extended to Amazon deforestation. Kyrgyzstan's legal system offers no directly comparable fast-track constitutional remedy accessible to children as claimants; environmental and mining-related grievances are more commonly addressed, when addressed at all, through administrative or criminal channels initiated by state prosecutors rather than by affected community members themselves⁴⁴.

Non-judicial state mechanisms show a similar asymmetry, though both institutions share a common structural weakness: a reactive rather than proactive mandate. Kyrgyzstan's National Human Rights Institution, the Ombudsman (*Akyikatchy*), can in principle receive complaints regarding environmental and human rights violations⁴⁵, but its own staff have acknowledged that the institution is contacted mainly by people in situations they consider hopeless, that awareness of the institution collapses outside the capital, and that its mandate formally activates only after a complainant has exhausted other remedies — a structural barrier for rural, mining-affected families, and one compounded by recurrent early dismissals of Ombudsmen that have drawn concern from the international network of national human rights institutions regarding the office's independence.

Accountability gaps are not merely procedural: in 2018–2019, officials of Kyrgyzstan's State Environmental Protection Agency were criminally charged⁴⁶ for colluding with a gold-mining company to understate the hazard classification of mining waste, reducing the company's pollution charges and causing documented state financial damage — a concrete illustration of the enforcement failures discussed in Section 4.1.3. Colombia's equivalent institution, the Defensoría del Pueblo (Ombudsman's Office), has more actively engaged with extractive-sector human rights issues, including reporting on the socio-environmental conflicts referenced in Section 4.2.1, though it too lacks a child-specific complaint mechanism tailored to extractive-frontier contexts⁴⁷.

43 Corte Suprema de Justicia de Colombia, Sala de Casación Civil. (2018, April 5). *Sentencia STC 4360–2018 (Radicación No. 11001–22–03–000–2018–00319–01)*. <https://cortesuprema.gov.co/corte/wp-content/uploads/2018/04/STC4360–2018–2018–00319–011.pdf>

44 CEE Bankwatch Network. (2023). *Kumtor gold mine, Kyrgyzstan*. <https://bankwatch.org/project/kumtor-gold-mine-kyrgyzstan>

45 United Nations Development Programme Kyrgyzstan, "Contribution of the Office of the Ombudsman to Advancing the Business and Human Rights Agenda," January 3, 2024.

46 Analytical Center for Central Asia, "Kyrgyzstan: Officials of the State Environmental Protection Agency Are Accused of Corruption," July 25, 2025.

47 IWGIA, "Colombian State Failing the Wayúu Children of La Guajira," September 15, 2021

Company-level grievance mechanisms are, in both cases, underdeveloped or oriented toward reputational management rather than rights-based remedy. In Puerto Guzmán, extractive companies' community-relations initiatives function as informal engagement tools rather than as structured grievance channels through which a child or family could file and track a complaint about environmental or health harm — precisely the gap the UNGPs' third pillar (access to remedy, Section 2.2) is designed to close, and precisely the gap that remains open here⁴⁸.

International and regional bodies offer the most consistent avenue across both cases, though their remedies are declaratory rather than compensatory. The IACHR and its REDESCA rapporteurship have held hearings directly addressing extractive-sector harms to children and Indigenous communities across the region, including the 2023 Bolivia mercury-contamination hearing and the 2025 joint IACHR-REDESCA call to protect Indigenous peoples' rights from extractive impacts, and Colombian civil society has used this channel actively (Section 5.1)⁴⁹. Kyrgyzstan's principal international channel is instead the UN treaty-body system, which can generate recommendations but carries no binding enforcement mechanism domestically⁵⁰.

Taken together, this comparison suggests that remedy availability for child claimants in extractive frontiers depends less on the severity of harm than on which legal tools happen to be culturally and institutionally available in a given country — a finding directly relevant to the comparative discussion in Chapter 6.

6. Comparative discussion

6.1 Synthesis for RQ1: How do extractive companies impact children's rights to education, health, and clean water?

Across both regions, extractive activity harms children's rights to health, education, and clean water through structurally similar mechanisms operating through different physical pathways (Section 4.3). The dominant mechanism of harm to the right to health is heavy-metal exposure — mercury in both Khaidarkan and Putumayo's alluvial gold mining, compounded by arsenic and lead in Colombian river basins — producing near-identical neurodevelopmental damage in children because of a shared physiological vulnerability (faster metabolism, developing immune and nervous systems) that operates independently of legal system, culture, or income level. This is worth stressing analytically: unlike most of the divergences catalogued in Chapter 4, the physiological pathway of harm is not regionally contingent at all — it is a biological constant that mining exploits identically wherever mercury amalgamation is

48 UN Human Rights Council, Guiding Principles on Business and Human Rights (A/HRC/17/31, 2011).

49 International Work Group for Indigenous Affairs, *The Indigenous World 2023: The Inter-American Human Rights System* (IAHRS) (Copenhagen: IWGIA, 2023).

50 Inter-American Commission on Human Rights and REDESCA, "IACHR and REDESCA Call for Urgent Respect for Indigenous Peoples' Rights Amid Impacts from Extractive Industries" (Press Release 158/25, August 9, 2025).

used, which is precisely why the same clinical picture (cognitive impairment, motor dysfunction, immune suppression) recurs in two legal systems, two continents, and two entirely unrelated regulatory traditions.

The right to clean water is compromised through different vectors that converge on the same outcome. In Kyrgyzstan, disruption operates through the cryosphere: glacial waste deposition at Kumtor threatens long-term water security for downstream populations, a slow-onset hazard whose effects will compound over decades rather than announce themselves in an acute event.

In Colombia, disruption is more immediate and visible — direct river-basin contamination and the destruction of fishing-based food security. This distinction maps onto the concept of slow violence developed in environmental humanities scholarship: harm that is gradual, cumulative, and largely invisible to policy attention because it does not generate a single dramatic incident to report. Kyrgyzstan's cryosphere disruption is a textbook case of slow violence — no single explosion or spill marks it, yet its consequences for children not yet born may exceed the more visible harms documented in Puerto Guzmán. This has a direct policy implication: monitoring and legal frameworks built to respond to acute events (spills, explosions, contamination incidents) are poorly designed to capture or remedy this category of harm, which is exactly the category the "protection" dimension of the framework (Section 2.3) is weakest at addressing in both countries.

The right to education is harmed both directly (blasting damage to schools and kindergartens in Terek-Sai; anti-personnel mines restricting children's physical route to school in Puerto Guzmán) and indirectly, through mechanisms less visible in official statistics: water-collection burdens that consume time otherwise available for schoolwork, health-related absenteeism from waterborne and respiratory disease, and psychosocial distress from conflict exposure that is well documented in the education literature to depress both attendance and learning outcomes independent of physical school access.

The key comparative finding for RQ1 is that the Andean Amazon case layers an armed-conflict multiplier onto impacts that would otherwise closely resemble the Central Asian case (Section 4.3, Divergence 2). Puerto Guzmán's territory functions as what environmental justice scholarship terms a "sacrifice zone" — a designation used explicitly by Amnesty International researchers to describe the gas-flaring areas of the Ecuadorian Amazon, and equally applicable to Putumayo: a place where a population's environmental and health burden is accepted, implicitly or explicitly, as the acceptable cost of resource wealth flowing elsewhere.

The conflict overlay means that in Puerto Guzmán, the same extractive harm — mercury exposure, deforestation-linked ecosystem loss — produces more severe downstream effects than an equivalent exposure would in a non-conflict setting, because environmental harm there compounds with, rather than substitutes for, conflict-related harm (recruitment, displacement, restricted mobility, psychological trauma). Kyrgyzstan's children, by contrast, face a comparatively "purer" extractive-harm profile, unmixed with active territorial conflict, but intensified by the additional long-horizon threat to glacial water security that has no real equivalent in the Colombian case.

A further comparative dimension worth foregrounding, and one the existing literature this study draws on (Gudynas, Svampa) treats as central to Latin American extractivism specifically, is the gendered pattern of both harm and resistance. In both the Ecuadorian gas-flaring litigation and Colombia's STC4360 case, the visible face of child-led legal mobilization has been girls and young women specifically, echoing a broader documented pattern in which women and girls bear a disproportionate share of water-related labour and household health burdens in extraction-affected communities, and are consequently often the first to translate that burden into public claim-making. This gendered dimension is largely absent from the Kyrgyz case documentation available for this study, which may reflect either a genuine difference in mobilization patterns or, more likely given Kyrgyzstan's more limited litigation culture (Section 5.4), a difference in which forms of advocacy get documented and internationally reported in the first place — a limitation flagged for future research in Chapter 7.

6.2 Synthesis for RQ2: How do legal frameworks and public policies recognize and protect children as active rights-holders?

Both Kyrgyzstan and Colombia exhibit what this study terms a recognition-implementation gap: on paper, both states have ratified the CRC, incorporated it into their domestic constitutional order (Section 4.1.3, 4.2.3), and adopted codified child-protection statutes (the Kyrgyz Children's Code; Colombia's Law 1098). Both have also engaged, at least nominally, with the business and human rights agenda — Colombia through two National Action Plans (2015, 2020) that explicitly name children as a "differential perspective" in mining and energy, and Kyrgyzstan through an emerging NAP process developed following Ombudsman recommendations (Section 5.4). In neither country, however, does this recognition translate into binding, child-specific due diligence requirements in environmental licensing or impact assessment (Section 2.2, 4.1.3, 4.2.3) — the single clearest shared finding across the two cases, and arguably the most policy-actionable one.

A useful lens for understanding why recognition so consistently outpaces implementation is the distinction between hard law and soft law in international governance. The CRC and its General Comments are hard law for states that have ratified them, but the UNGPs — the instrument most directly governing corporate conduct in extractive licensing — remain voluntary (Section 2.2). This asymmetry means that the state's obligation to protect is legally binding while the corresponding expectation that companies conduct child-rights due diligence is not, creating a structural incentive for both governments to satisfy their own hard-law obligations through general child-welfare policy (health ministries, education ministries, social protection) while leaving the extractive-licensing process itself — where the soft-law UNGP framework applies — comparatively untouched.

This dynamic is independently visible in a fact this study verified directly: both Kyrgyzstan and Colombia are EITI implementing countries, and Colombia in particular became the first country in the Americas to reach the EITI Standard's highest level of validated progress. Both governments, in other words, have proven willing and able to build binding-style transparency infrastructure around extractive-sector revenue — precisely the domain international donors and investors care most about — while no comparable infrastructure exists for extractive-sector child impact. This is a striking asymmetry: the institutional capacity to build a rigorous disclosure regime clearly exists in both states; what is missing is the political demand to point that same capacity at children's health, education, and water outcomes rather than at fiscal transparency alone.

Where the two cases diverge is in the depth and enforceability of the surrounding legal architecture. Colombia's framework is reinforced by an active Constitutional Court that has repeatedly affirmed children as subjects of special constitutional protection, by a binding prior-consultation requirement grounded in ILO Convention 169, and by ratification of the Escazú Agreement (Section 5.3) — giving Colombian children, at least in principle, more legal footholds than their Kyrgyz counterparts. Kyrgyzstan's framework, while formally comprehensive (Section 4.1.3), lacks an equivalent tradition of constitutional public-interest litigation and sits outside Escazú's regional scope, leaving international treaty-body reporting as the main lever for translating recognition into practice. The recent (2026) CRC Committee review of Colombia — commending child-focused climate action while pressing on business-sector accountability and child recruitment by armed groups (Section 4.2.3) — illustrates that even the more developed of the two frameworks remains, in the Committee's own assessment, incompletely implemented; recognition on paper is necessary but demonstrably not sufficient even in the more favorable case.

6.3 Synthesis for RQ3: What are civil society's primary advocacy strategies to address the State's failure to protect children?

The comparison developed in Chapter 5 shows that civil society's choice of strategy is shaped less by the severity of the underlying harm than by which legal and civic tools are institutionally available (Section 5.4). This pattern maps closely onto Keck and Sikkink's influential "boomerang pattern" model of transnational advocacy, developed to explain how domestic civil society groups respond when blocked from effective recourse at home: where domestic channels are open and responsive (as in Colombia, with its accessible *tutela* mechanism and an activist Constitutional Court), advocacy groups pursue their claims directly through domestic courts; where domestic channels are blocked or unresponsive (as in Kyrgyzstan, with its narrower ombudsman mandate and weaker litigation culture), advocacy groups instead throw the boomerang outward, bypassing the domestic state to appeal directly to international bodies — UN treaty-body submissions and donor-facing monitoring reports — in the hope that international pressure will eventually curve back and force domestic change. This is precisely the pattern Chapter 5 documents: Kyrgyz civil society's heavier reliance on CEDAW and treaty-body reporting is not a weaker or less sophisticated strategy than Colombian litigation, but a rational adaptation to a different domestic legal opportunity structure.

This connects to a second useful concept: legal opportunity structure, a term from socio-legal scholarship describing how the availability of legal tools — not merely the severity of grievances — determines whether social movements turn to courts at all. Colombia's 1991 Constitution manufactured a legal opportunity structure almost uniquely favorable to child and youth claimants: a low-cost, fast constitutional remedy (the *tutela*), explicit constitutional language on the prevalence of children's rights (Article 44), and a Constitutional Court institutionally willing to recognize novel rights-holders, up to and including rivers and the Amazon itself as legal subjects. Kyrgyzstan's post-Soviet legal tradition offers no structurally equivalent opportunity: its Ombudsman mechanism (Section 5.4) is reactive by design, activating only once other remedies are exhausted, and no comparable "constitutional block" habit of rights litigation has developed. Civil society strategy, in other words, follows the shape of the opportunity structure available to it — it does not simply track the severity of harm, which by the evidence assembled in Chapter 4 is comparably severe in both countries.

A second cross-cutting finding is that in both regions, civil society and children's own mobilization (Section 5.2) currently function primarily as an accountability backstop after the fact, rather than as genuine input into upstream decision-making (Section 5.3): litigation and advocacy respond to harm that has already occurred, while the formal participation channels that should allow children a voice before licensing decisions are made — public consultations, *consulta previa*, environmental impact assessment review — remain largely inaccessible or adult-centered in both cases.

This suggests that the "participation" dimension of the analytical framework (Section 2.3) is the dimension where the gap between recognition and practice is most acute across both regions, more so even than "protection" or "remedy" — civil society has, in effect, built a strong downstream response to failure in both countries, while the upstream prevention architecture that would make such a response less necessary in the first place remains comparatively undeveloped everywhere.

6.4 Explanatory factors

Why does the same underlying phenomenon — extraction outpacing child-rights protection — produce a comparatively litigious, judicialized civil-society response in the Andean Amazon and a comparatively reporting-and-monitoring-based response in Central Asia, despite broadly comparable severity of harm (Section 6.1) and a shared recognition-implementation gap in the legal frameworks that formally protect children (Section 6.2)? Five factors, drawn together from the preceding chapters and the theoretical concepts introduced above, offer an explanation.

First, differing legal traditions and constitutional design (legal opportunity structure). As developed in Section 6.3, Colombia's 1991 Constitution created an unusually accessible public-interest litigation architecture and an activist Constitutional Court willing to recognize novel rights-holders⁵¹. Kyrgyzstan's post-Soviet legal tradition, by contrast, channels rights protection primarily through administrative and ombudsman mechanisms with a narrower, more reactive mandate (Section 5.4) — a structural, not merely political, reason why litigation is not the natural first resort for Kyrgyz civil society, and one that would likely persist even under a more favorable political climate⁵².

Second, civic space trajectory. Kyrgyzstan's shrinking civic space and foreign-agent-style regulation (Section 4.1.3, 5.1) actively discourage the kind of sustained, high-visibility rights-based campaigning that produced Colombia's STC4360-2018; this is a political-economy constraint layered on top of the legal-tradition difference above, not a substitute for it, since even a favorable legal tradition would struggle to generate litigation under comparable civic-space pressure.

Third, the presence or absence of armed conflict as an organizing condition. In Puerto Guzmán, the physical risk of civil society organizing (Section 5.1) is categorically higher than in Kyrgyzstan, yet Colombian civil society and Indigenous organizations have nonetheless developed some of the region's most consequential child-rights litigation — suggesting that

⁵¹ United Nations Development Programme Kyrgyzstan, "Contribution of the Office of the Ombudsman to Advancing the Business and Human Rights Agenda," January 3, 2024.

⁵² Asia Pacific Forum, "Strengthening NHRI Independence in Kyrgyz Republic," November 2, 2023.

conflict conditions, rather than uniformly suppressing advocacy, can also sharpen its urgency and international visibility, particularly through the Inter-American human rights system's specific institutional attention to conflict-affected Indigenous territories (Section 2.2). This is a genuinely counter-intuitive finding worth flagging for future research: the region with objectively higher physical risk to advocates has produced more, not less, high-visibility child-rights jurisprudence, which cautions against a simple "risk suppresses voice" model of civil society behavior.

Fourth, the political economy of resource dependence (the resource curse)⁵³. Both countries fit the broader pattern long identified in the "resource curse" or "paradox of plenty" literature — precisely the pathology the EITI itself was created to counteract (Section 6.2) — in which resource wealth flows to central government revenue and export statistics without a matching flow of benefit to extraction-adjacent populations. This shared political economy explains the persistent revenue-versus-services gap documented in both Section 4.1.1 (Kyrgyzstan's 40% export share against 3% employment) and Section 4.2.1 (Colombian regions such as La Guajira combining extraction with documented child malnutrition), and helps explain why neither state has been willing to convert EITI-style revenue transparency into an equivalent transparency regime for child-specific environmental and health impact⁵⁴.

Fifth, both regions sit within a shared, intensifying global structural pressure. The accelerating global demand for critical minerals (Section 4.3) — driving a documented 73% year-on-year rise in human-rights-abuse allegations linked to transition-mineral mining in 2025, and projected to nearly triple overall critical-mineral demand by 2030 — means that neither region's legal or civil-society response is operating against a static backdrop. This external driver is common to both cases and is likely to widen, rather than narrow, the recognition-implementation gap identified in Section 6.2 unless child-specific due diligence is built into licensing frameworks proactively, rather than litigated reactively after harm has already occurred — a conclusion that carries directly into the recommendations developed in Chapter 7.

53 Richard M. Auty, *Sustaining Development in Mineral Economies: The Resource Curse Thesis* (London: Routledge, 1993).

54 Jeffrey D. Sachs and Andrew M. Warner, *Natural Resource Abundance and Economic Growth*, NBER Working Paper No. 5398 (Cambridge, MA: National Bureau of Economic Research, 1995).

7. Conclusion and recommendations

This study examined the relationship between extractive companies, environmental degradation, and children's rights through a comparative analysis of Central Asia and the Andean Amazon. More specifically, it examined Kyrgyzstan through the Khaidarkan mercury mining area and the Terek-Sai gold mining area, with the Kumtor gold mine used as a secondary reference point, and Puerto Guzmán, Putumayo, Colombia, as the primary site-level case in the Andean Amazon.

The research addressed three interconnected questions: how extractive companies impact children's rights to a healthy environment, specifically regarding access to education, health, and clean water; how legal frameworks and public policies address these three rights to recognize and protect children as active rights-holders in extractive contexts; and what advocacy strategies civil society uses to address State failures to protect children's human rights within extractive frontiers.

The comparative analysis demonstrates that, despite substantial differences in political systems, legal traditions, environmental conditions, regional human rights regimes, and civil society environments, the two cases share a central structural problem: a persistent recognition-implementation gap.

Both Kyrgyzstan and Colombia formally recognize children's rights through international human rights treaties, constitutional provisions, domestic legislation, and public policies. Both countries maintain environmental and extractive-sector regulations and participate in international initiatives concerning extractive governance and transparency. Nevertheless, neither country has systematically translated the formal recognition of children's rights into child-specific preventive, participatory, and enforceable mechanisms within extractive-sector governance.

Children remain insufficiently visible within environmental licensing procedures, environmental and social impact assessments, corporate human rights due diligence, monitoring systems, community consultation processes, and access-to-remedy mechanisms. Extractive-sector governance continues to assess impacts primarily at the level of ecosystems, workers, households, or communities, without systematically identifying the differentiated consequences of extractive activities for children's health, education, access to clean water, development, cultural continuity, and long-term environmental security.

7.1 Recommendations

Based on these findings, this study proposes six recommendations for strengthening the protection of children's rights within extractive frontiers.

First, States should require mandatory child-rights impact assessments as part of environmental licensing and environmental and social impact assessment procedures for extractive projects.

These assessments should identify differentiated impacts on children's health, education, access to clean water, food security, development, cultural rights, psychosocial well-being, and long-term environmental security. Child-rights impact assessments should be conducted before project authorization and periodically updated throughout the project life cycle, including exploration, exploitation, closure, and post-closure stages. Assessments should consider cumulative and intergenerational environmental impacts rather than focusing exclusively on immediate or project-specific risks.

Second, States should establish mandatory child-specific human rights due diligence requirements for extractive companies.

The UN Guiding Principles on Business and Human Rights provide an important normative foundation, but voluntary corporate commitments are insufficient where environmental risks are foreseeable and potentially irreversible. Extractive companies should be legally required to identify, prevent, mitigate, monitor, and publicly report their impacts on children's rights. Due diligence obligations should extend to subsidiaries, contractors, supply chains, security arrangements, and business relationships and should incorporate independent monitoring and meaningful participation by affected communities.

Third, children's meaningful participation should be institutionalized within extractive-sector governance.

Children and young people should have opportunities to participate in environmental impact assessments, licensing processes, public consultations, community monitoring, environmental restoration plans, and decisions concerning the use of extractive revenues. Environmental and technical information should be translated into accessible and age-appropriate formats. Participation mechanisms should be safe, inclusive, culturally appropriate, gender-sensitive, and adapted to Indigenous, rural, conflict-affected, and marginalized children. Children's participation should occur before extractive projects are authorized and continue throughout project implementation, closure, environmental restoration, and monitoring.

Fourth, States should strengthen child-sensitive access to remedy and accountability mechanisms.

Judicial, administrative, national human rights institutions, and company-level grievance mechanisms should be accessible, affordable, timely, independent, and capable of responding to children's specific needs. Effective remedies should extend beyond financial compensation and include environmental restoration, rehabilitation, long-term health monitoring, access to safe water, educational support, psychosocial assistance, cultural restoration, and guarantees of non-repetition. States should also strengthen enforcement mechanisms and sanctions when companies fail to prevent, mitigate, or remedy environmental harm affecting children.

Fifth, extractive-sector transparency and revenue-governance mechanisms should incorporate child-rights indicators.

Both Kyrgyzstan and Colombia have demonstrated institutional capacity to participate in international extractive-sector transparency initiatives. This capacity should be extended beyond fiscal transparency toward social and environmental accountability. Governments should publicly report child-specific indicators in extraction-affected territories, including exposure to environmental pollutants, access to safe drinking water, school attendance and educational disruption, child health outcomes, food insecurity, environmental displacement, recruitment risks in conflict-affected areas, and public investment in child-related services. A defined share of extractive revenues should be transparently reinvested in health, education, water infrastructure, environmental restoration, and child-protection systems within affected territories.

Sixth, stronger coalitions should be developed between children's rights organizations, Indigenous organizations, environmental movements, trade unions, human rights defenders, researchers, and climate-justice organizations.

The study demonstrates that child-specific advocacy within extractive frontiers remains fragmented, particularly in contexts such as Kyrgyzstan, where environmental organizations, labour movements, and child-rights organizations frequently work in parallel. Building integrated advocacy coalitions could connect the Convention on the Rights of the Child, business and human rights standards, environmental justice, Indigenous peoples' rights, labour rights, and climate governance. Such coalitions could strengthen community monitoring, strategic litigation, international advocacy, policy reform, research, and children's participation while increasing the political visibility of the differentiated impacts of extractive activities on children.

7.2 Limitations and Future Research

This study has several limitations that should be acknowledged.

First, the research relies primarily on document analysis and secondary environmental and epidemiological evidence. No primary interviews were conducted with children, families, community organizations, State officials, corporate representatives, or environmental defenders.

This limitation is particularly significant because the study argues for recognizing children as active rights-holders while relying on evidence about children's experiences and mobilization produced primarily through secondary sources.

Future research should therefore incorporate participatory and child-sensitive methodologies that allow children and young people living in extractive frontiers to directly define environmental problems, describe their experiences, identify priorities, and contribute to the design of policy recommendations.

Second, the availability and visibility of evidence differ between the two cases.

Colombia possesses a comparatively extensive body of constitutional jurisprudence, civil society documentation, international human rights reporting, and environmental advocacy. Evidence concerning child-specific impacts and advocacy strategies in Kyrgyzstan is more limited and fragmented.

This asymmetry may influence which harms and advocacy strategies become visible within the comparison. The absence of documentation should not necessarily be interpreted as evidence that particular harms or forms of mobilization do not exist.

Third, the study compares cases operating at different geographical scales.

Kyrgyzstan is examined through multiple mining sites within a national legal framework, while the Andean Amazon case focuses primarily on Puerto Guzmán within Colombia's national and regional human rights context. The comparative design addresses this asymmetry by applying the same analytical dimensions — recognition, protection, participation, accountability, and remedy — to both cases. Nevertheless, the findings should not be interpreted as representative of all extractive regions within Central Asia or the Andean Amazon.

Fourth, the study focuses primarily on children's rights to health, education, and clean water.

Extractive activities may also affect other rights requiring further investigation, including housing, adequate food, family life, freedom from violence and exploitation, cultural rights, mental health, and protection from displacement and recruitment by armed groups.

Future research should examine these additional dimensions and explore how multiple rights violations interact cumulatively across children's life courses.

Fifth, the study identifies gender as an important but insufficiently documented dimension of environmental harm and child-led mobilization.

Girls and young women have played prominent roles in environmental litigation in Colombia, while evidence concerning gendered patterns of harm and mobilization in Kyrgyzstan remains comparatively limited. Future research should therefore examine how gender, ethnicity, age, disability, poverty, migration status, and territorial location shape children's exposure to extractive harm, participation in environmental governance, and access to remedy.

Finally, future research should investigate the implications of the global energy transition for children's rights.

Growing demand for critical minerals is expected to expand extraction into environmentally sensitive and politically marginalized territories. Comparative research should examine whether emerging mandatory human rights and environmental due diligence frameworks can effectively prevent harm to children in resource-producing countries and whether the transition toward low-carbon economies can be governed without reproducing existing patterns of environmental injustice.

The principal challenge identified by this study is not the absence of legal recognition of children's environmental rights. Children are increasingly recognized under international and domestic law as rights-holders entitled to health, education, clean water, participation, access to justice, and a healthy environment. The central challenge is translating this recognition into preventive, participatory, and enforceable mechanisms capable of influencing extractive-sector governance before environmental harm occurs.

The comparative analysis of Kyrgyzstan and Puerto Guzmán demonstrates that children living within extractive frontiers continue to bear environmental and social costs generated by economic activities from which their communities frequently receive limited and uneven benefits. Although the environmental pathways of harm differ, the structural problem is shared: extractive governance remains insufficiently child-sensitive.

Protecting children's rights therefore requires a shift from reactive responses toward preventive governance; from general community-level assessments toward child-specific human rights due diligence; from adult-centered consultation toward meaningful child participation; from voluntary corporate commitments toward enforceable accountability; and from fragmented advocacy toward stronger coalitions connecting children's rights, environmental justice, Indigenous peoples' rights, and climate governance.

Children must be recognized not only as members of future generations who will inherit the consequences of today's environmental decisions, but as present-day rights-holders whose health, education, access to clean water, experiences, knowledge, and perspectives must influence decisions concerning natural-resource extraction.

As global demand for critical minerals intensifies, this transformation becomes increasingly urgent. A global energy transition that reduces carbon emissions while transferring environmental degradation, health risks, water insecurity, and social disruption to children living in extractive frontiers cannot be considered just or sustainable.

Ensuring that extractive governance incorporates child-specific prevention, meaningful participation, corporate accountability, effective remedies, and intergenerational justice is therefore both a legal obligation and a necessary condition for building development models that respect human rights and environmental sustainability across generations.

References

1. Analytical Center for Central Asia. (2025, July 25). Kyrgyzstan: Officials of the State Environmental Protection Agency are accused of corruption.
2. Amnesty International. (2024). The Amazon is burning, the future is burning! Young activists defending the Ecuadorian Amazon from gas flares that threaten rights now and in the future (AMR 28/8280/2024). <https://www.amnesty.org/en/documents/amr28/8280/2024/en/>
3. Amazon Frontlines. (2021, May). The Buenavista Reservation of the Siona People and civil society human rights organizations celebrate the cancellation of the "Strategic Alliance" between UNDP-Colombia and GeoPark Oil Company.
4. Asia Pacific Forum. (2023, November 2). Strengthening NHRI independence in Kyrgyz Republic.
5. Auty, R. M. (1993). Sustaining development in mineral economies: The resource curse thesis. Routledge.
6. Business & Human Rights Resource Centre. (2026). Transition minerals tracker: 2026 global analysis.
7. CEE Bankwatch Network. (2023). Kumtor gold mine, Kyrgyzstan. <https://bankwatch.org/project/kumtor-gold-mine-kyrgyzstan>
8. Colombia. Corte Constitucional. (2016). Sentencia T-622 de 2016. Corte Constitucional de Colombia.
9. Colombia. Corte Constitucional. (2017). Sentencia T-302 de 2017. Corte Constitucional de Colombia.
10. Colombia. Presidencia de la República, Consejería Presidencial para los Derechos Humanos. (2015). Plan Nacional de Acción en Derechos Humanos y Empresas (Colombia Avanza). Presidencia de la República.
11. Committee on the Rights of the Child. (2013). General comment No. 16 (2013) on State obligations regarding the impact of the business sector on children's rights (CRC/C/GC/16). United Nations.
12. Committee on the Rights of the Child. (2023). General comment No. 26 (2023) on children's rights and the environment, with a special focus on climate change (CRC/C/GC/26). United Nations. <https://digitallibrary.un.org/record/4017348>
13. Committee on the Rights of the Child. (2026). Concluding observations on the combined sixth and seventh periodic reports of Colombia (CRC/C/COL/CO/6-7). United Nations.
14. Corte Suprema de Justicia de Colombia, Sala de Casación Civil. (2018, April 5). Sentencia STC4360-2018 (Radicación No. 11001-22-03-000-2018-00319-01). <https://cortesuprema.gov.co/corte/wp-content/uploads/2018/04/STC4360-2018-2018-00319-01.pdf>
15. Cultural Survival. (2025, May 9). 2025 Transition Minerals Tracker underscores the disproportionate impact of mining for transition minerals on Indigenous communities.

16. Dejusticia. (2018). STC4360-2018: Litigio de niños y jóvenes contra la deforestación amazónica. Corte Suprema de Justicia de Colombia.
17. De Schutter, O. (2023). Visit to Kyrgyzstan: Report of the Special Rapporteur on extreme poverty and human rights (A/HRC/53/33/Add.1). United Nations Human Rights Council. <https://www.ohchr.org/en/documents/country-reports/ahrc5333add1-visit-kyrgyzstan-report-special-rapporteur-extreme-poverty>
18. Extractive Industries Transparency Initiative. (2026). Kyrgyz Republic.
19. Global Forest Coalition. (2022). Tuninetti, Á. Whose land, whose forests? The gendered impacts and colonial roots of extractive industries (Forest Cover 67).
20. Global NAPs Database. (2026). Colombia: Guidance to business. Business & Human Rights Resource Centre and Danish Institute for Human Rights. <https://globalnaps.org/country-issue/colombia-guidance-to-business/>
21. Global Witness. (2024, September 10). More than 2,100 land and environmental defenders killed between 2012 and 2023.
22. GlacierHub. (2014, December 23). Kumtor gold mine threatens Central Asian glaciers and water. Columbia University. <https://glacierhub.org/2014/12/23/kumtor-gold-mine-threatens-central-asian-glaciers-and-water/>
23. Herrera Carrión et al. v. Ministry of the Environment et al. (Caso Mecheros), Provincial Court of Justice of Sucumbíos, Ecuador. (2021). Climate Litigation Database. <https://climatecasechart.com/non-us-case/herrera-carrion-et-al-v-ministry-of-the-environment-et-al-caso-mecheros/>
24. Human Rights Watch. (2025, December 5). Colombia: Los grupos armados someten a las comunidades en Putumayo. <https://www.hrw.org/es/news/2025/12/05/colombia-los-grupos-armados-someten-a-las-comunidades-en-putumayo>
25. International Work Group for Indigenous Affairs. (2023). The Indigenous World 2023. International Work Group for Indigenous Affairs.
26. Inter-American Commission on Human Rights. (2016). Indigenous peoples, Afro-descendant communities, and natural resources: Human rights protection in the context of extraction, exploitation, and development activities. Organization of American States. <https://www.oas.org/en/iachr/reports/pdfs/ExtractiveIndustries2016.pdf>
27. Inter-American Commission on Human Rights, & Special Rapporteurship on Economic, Social, Cultural, and Environmental Rights. (2025, August). Joint statement on the protection of Indigenous peoples' rights in the context of extractive industries. Organization of American States. <https://www.oas.org/en/iachr/>
28. International Work Group for Indigenous Affairs. (2021, September 15). Colombian State failing the Wayúu children of La Guajira.
29. Kyrgyz Republic. (2019). Fifth periodic report on the implementation of the Convention on the Rights of the Child, 2014-2019. United Nations.
30. Mamo, D. (Ed.). (2023). The Indigenous World 2023. International Work Group for Indigenous Affairs.

31. Sachs, J. D., & Warner, A. M. (1995). Natural resource abundance and economic growth (NBER Working Paper No. 5398). National Bureau of Economic Research.
32. Sierra, M. P. (2025, November 24). Minas antipersonal en Puerto Guzmán: La herida sigue abierta. Consonante.
33. United Nations. (1989). Convention on the Rights of the Child. United Nations Treaty Series, 1577, 3.
34. United Nations. (1992). Rio Declaration on Environment and Development. United Nations Conference on Environment and Development.
35. United Nations. (2022). Resolution 76/300: The human right to a clean, healthy and sustainable environment (A/RES/76/300). United Nations General Assembly.
36. United Nations Development Programme Kyrgyzstan. (2024, January 3). Contribution of the Office of the Ombudsman to advancing the business and human rights agenda.
37. United Nations Economic Commission for Latin America and the Caribbean. (2018). Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement). United Nations.
38. United Nations Environment Programme, United Nations Institute for Training and Research, & Zoï Environment Network. (2009). [Report on environmental assessment and related issues].
39. United Nations General Assembly. (2022). The human right to a clean, healthy and sustainable environment (A/RES/76/300). United Nations.
40. United Nations Human Rights Council. (2011). Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework (A/HRC/17/31). United Nations.
41. United Nations in Kyrgyz Republic. (2024, September 6). Kyrgyzstan's youth prepared a statement on climate change.
42. United States Department of Labor, Bureau of International Labor Affairs. (2019). 2018 findings on the worst forms of child labor: Kyrgyz Republic. U.S. Department of Labor.
43. World Bank Group. (2023). Mining sector diagnostic: Kyrgyz Republic. World Bank.
44. World Health Organization. (2017). Inheriting a sustainable world? Atlas on children's health and the environment. World Health Organization.
<https://www.who.int/publications/i/item/9789241511773>
45. United Nations Development Programme Kyrgyzstan. (2024, January 3). Contribution of the Office of the Ombudsman to advancing the business and human rights agenda.
46. United Nations Environment Programme, United Nations Institute for Training and Research, & Zoï Environment Network. (2009). [Environmental assessment report].
47. United Nations Human Rights Council. (2011). Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework (A/HRC/17/31). United Nations.

48. United Nations Office of the High Commissioner for Human Rights. (2011). Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework (A/HRC/17/31). United Nations.
49. United Nations Economic Commission for Latin America and the Caribbean. (2018). Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement). United Nations.
50. United Nations General Assembly. (2022). The human right to a clean, healthy and sustainable environment (A/RES/76/300). United Nations.
51. United Nations in Kyrgyz Republic. (2024, September 6). Kyrgyzstan's youth prepared a statement on climate change.
52. United States Department of Labor, Bureau of International Labor Affairs. (2019). 2018 findings on the worst forms of child labor: Kyrgyz Republic. U.S. Department of Labor.
53. World Bank Group. (2023). Mining sector diagnostic: Kyrgyz Republic. World Bank.
54. World Health Organization. (2017). Inheriting a sustainable world? Atlas on children's health and the environment. World Health Organization.
<https://www.who.int/publications/i/item/9789241511773>








The territory. The people. The children. They need advocacy now.

Defending human rights — and life itself.





Global Campus Alumni
 Together for Human Rights



