

Gold Mining Using Mercury in the Amazon: A Legal Review

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I. Executive Summary

This report was commissioned by The Nature Conservancy in support of the program of work on managing and protecting freshwater fisheries in the Amazon Basin to benefit both freshwater biodiversity and the people who rely on those fisheries for nutrition, livelihood, and cultural and social well-being.

In the Amazon, gold mining using mercury has risen as a key threat with few effective and tested solutions. Law and public policy present one avenue for progress, and so in support of that approach, this report describes the most significant laws and public policies in five countries—Bolivia, Brazil, Colombia, Ecuador, and Peru—bearing on the use of mercury in gold mining. Each of these countries struggles with high levels of illegal or informal gold mining using mercury, with the bulk of this activity concentrated in the Amazon Basin, and each is a Party to the Minamata Convention on Mercury (“Minamata Convention”).

Despite this common baseline, the countries discussed in this report have developed distinct legal and policy approaches to the problem of mercury-based gold mining. While the five focus countries have all pursued a handful of common strategies—formalization of informal gold miners and restrictions on the mercury trade, chief among them—the similarities begin to fade into the background upon examination of specific legal instruments.

With the foregoing in mind, this report aims to clarify the legal landscape in the focus countries as concerns the use of mercury in gold mining. Specifically, this report discusses the extent to which the laws of each country regulate use of mercury in gold mining; importation and exportation of mercury; domestic commerce in mercury (i.e., buying and selling mercury within a country’s borders); and penalties for violations of any such norms.

Relatedly, this report explores how each country has attempted to formalize artisanal and small-scale gold mining (ASGM), much of which occurs outside the strictures of mining laws and permit systems. In addition, because gold mining with mercury in the Amazon basin frequently involves incursion into protected areas and territories managed by Indigenous Peoples and Local Communities (IPLCs), this report analyzes legal frameworks associated with such areas vis-à-vis illegal and informal gold mining.

Finally, the report discusses pollution laws, remediation and restoration obligations, monitoring and enforcement authority, citizen participation regimes (with a focus on IPLCs), and opportunities for public-interest litigation responsive to gold mining using mercury (again with a focus on IPLC-led initiatives).

By canvassing the basic features of the focus countries’ legal frameworks relevant to gold mining using mercury, this report effectively doubles as a measurement, however rough, of each country’s progress under Article 7 of the Minamata Convention. That Article obligates Parties with mercury-based ASGM to “take steps to reduce, and where feasible eliminate, the use of mercury and mercury compounds in, and the emissions and releases to the environment of mercury from, such mining and processing.”¹

¹ Minamata Convention, Art. 7.

While laws by themselves are insufficient to fulfill Article 7's call—at a minimum, effective public administration, law enforcement, civil-society engagement, and initiatives to incentivize alternatives are equally necessary—laws nevertheless play a fundamental role in Article 7 efforts. Laws can either exacerbate the problem (e.g., if a Party treats mercury like an ordinary, harmless product under import-export laws), maintain the status quo, or mitigate the use of mercury in ASGM while addressing associated challenges like mining in protected areas, mining in violation of IPLC rights, use of prohibited equipment, and so forth. In short, holistic assessment of a Party's performance under Article 7 inevitably requires an understanding of the relevant national legal landscape, even as other factors contribute to the overall picture in equal or greater measure.

Based upon the legal review that constitutes the bulk of this report, the document closes with a series of findings and recommendations. To underscore the ways in which the focus countries at once share much in common but also diverge in important aspects, the report divides these findings and recommendations in two: (1) cross-cutting findings and recommendations (i.e., findings and recommendations that apply to most or all focus countries); and (2) findings and recommendations by country (i.e., country-specific findings and recommendations).

By way of preview, the findings and recommendations almost all flow from one central reality: The scale of informal and illegal gold mining in all five focus countries continues to manifest as a multi-faceted conundrum, wherein governments must:

- (a) strike a balance between, on one hand, making formalization attractive enough to incentivize participation by a critical mass of informal miners, and, on the other, demanding behavioral change significant enough to improve the fundamental character of informal ASGM;
- (b) carefully discern between informal mining that ought to be brought into the fold and illegal mining that calls for outright elimination; and
- (c) accomplish all this in economic and political contexts, particularly those that prevail in and near ASGM hotspots, characterized by limited alternative jobs, corruption, organized crime, and scarce official institutions.

Although each focus country has taken meaningful steps to make headway amid these challenges, some have done more than others. And while implementation and committed enforcement of existing laws and policies is, in general, a major shortcoming for all five focus countries, this report identifies several instances in which national authorities should, in fact, consider substantial—and sometimes paradigm-shifting—changes to the legal status quo. In other words, the focus countries would, in general, benefit from a combination of (1) enhanced implementation and enforcement of laws currently on the books; and (2) selected development of new or amended laws where approaches to date have proven defective.

To complement the findings and recommendations—and to provide the reader with a quick summary of where each country stands in terms of law and policy positions—an appendix of summary tables has been attached to this report. Entitled “Appendix: Summary Tables,” this appendix includes three tables: (1) a summary of national legal norms; (2) party status to relevant treaties; and (3) possible lines of work for civil-society organizations. Some readers may find it

helpful to review this appendix before diving into the full report; others may find it helpful to refer to the appendix intermittently (to re-orient the reader to the bigger picture as details and nuance accumulate in the main text) or, of course, following a complete reading of the report.

As with most reports on complex issues, this document does not cover every aspect of the problem. While the author prepared this document with all due diligence (see “Methodology,” below), the author did not review every legal or policy instrument relevant to the subject matter. To cite one example, although traceability of gold along international supply chains is crucial to global efforts to detect and remove from markets gold produced with mercury (and gold otherwise tainted with illegality), the author did not conduct research specifically focused on traceability. Accordingly, while traceability efforts are mentioned in places, the treatment is far from comprehensive. Moreover, the evolving nature of law and policy creates for a moving target. As countries issue new laws, decrees, and regulations—to say nothing of judicial decisions—the legal landscape changes. Sometimes this change is minor; on occasion, the change is major and truly landscape-altering. Similar shifts often follow in the wake of national elections, with new executive and legislative actors pursuing different policy objectives. Of course, this report can only reflect the state of affairs at the time of writing.

II. Methodology

This report is the product of desk research and, to a lesser extent, interviews with professionals and subject-matter experts in the focus countries. In all events, research aimed to answer the

A note on terminology: “illegal” versus “informal” gold mining

Reflecting distinctions in law, policy, and academic and popular literature, this report frequently distinguishes “illegal” from “informal” gold mining. At one level, the distinction seems silly: If one of the hallmarks of “informal” gold mining is mining with neither authorization nor payment of corresponding fees and taxes, it seems obvious that “informal” gold mining is in fact illicit or illegal gold mining. Gold mining in a protected area with mercury, accompanied by a bevy of other environmental and labor violations, may up the ante—making it *more* illegal than mining without authorization—but surely both are “illegal” in the common understanding of the term.

Yet, in the laws and policies of the focus countries (and in discourse surrounding the Minamata Convention), a critical distinction is drawn between “informal” and “illegal” gold mining. Setting aside the details, laws and policies in the focus countries tend to treat “informal” mining as quasi-legitimate—or at least eligible for incorporation in the formal, legal economy—while targeting “illegal” mining for total eradication.

Definitionally, the core difference is this: “Informal” mining is mining that *could* be conducted, under reasonably foreseeable circumstances, in a fully legal manner. “Illegal” mining, in contrast, is so fundamentally at odds with the law that it can never be authorized. Practically, this almost always means gold mining in protected areas or other spaces off-limits to mining.

following core question for each focus country: How does the law treat gold mining using mercury and associated activities?²

To identify relevant laws and policies responsive to this question, the author followed a four-step process. First, the author consulted National Action Plans (NAPs) and other country reports (e.g., “short national reports”) available on the Minamata Convention website. In addition to standing as important policy and planning documents under the Minamata Convention, NAPs, when available, contain helpful discussions of national laws, regulations, and decrees.

Second, the author independently identified and reviewed potentially relevant legal instruments through FAOLEX, a robust legal database that, among other categories, contains laws on “Mineral Resources and Energy,” “Water,” “Indigenous Peoples,” and “Environment” for each of the focus

countries.

Third, the author conducted a small set of informal interviews with individuals from each focus country to (1) confirm that the prior steps had in fact identified the most relevant legal instruments, and (2) solicit perceptions and insights regarding those instruments.

Finally, the author conducted keyword searches on Google, both to identify helpful contextual news articles and secondary literature and as a further validation of prior research.

Although the individual country sections below provide a fuller picture of the research and results, the author investigated the sub-topics set forth in Table 1 (“Legal research sub-topics”) for each

² As becomes apparent upon a read of the core sections of this report, not all laws consulted were of equal importance. Naturally, some legal instruments were discussed far more than others. Furthermore, while this report discusses a handful of judicial decisions, the research and analysis focused much more heavily on laws, regulations, and decrees (the world of rules) as opposed to judicial decisions (application of those rules to individual cases). A report that inverted the focal points—emphasizing judicial decisions over prescriptive legal norms—would offer an illuminating complementary analysis.

focus country. Note that many of the legal instruments reviewed by the author were ultimately discarded as insufficiently relevant. Legal instruments that played a role in the analysis are discussed in Sections III (“Minamata Convention and Other Treaty Commitments”) and IV (“Country Analysis: Challenges and Laws”), respectively.

Table 1: Legal research sub-topics	
Sub-topic	Lines of research
Various background/framing laws (including constitutional provisions and treaty commitments)	Constitutional provisions, judicial decisions, and treaty commitments on: ○ state ownership of mineral resources ○ the right to a healthy environment ○ the right to work ○ IPLC rights vis-à-vis territories and natural resources ○ access to information, public participation, and justice in environmental matters (e.g., as treated in the Escazú Agreement, recognizing that while Bolivia, Colombia, and Ecuador are Parties to the Escazú Agreement, Brazil and Peru remain only signatories) ○ biological diversity and protected areas (e.g., obligations under the Convention on Biological Diversity, to which all focus countries are Parties, and the Kunming-Montreal Global Biodiversity Framework)
General mining laws	Foundational legal provisions on: ○ definitions and basic parameters corresponding to subsistence, artisanal, small-scale, and large-scale mining (noting that terminology varies between countries) ○ distinctions between informal and illegal mining ○ mining rights and concessions ○ environmental duties of miners and mining operations
Laws directly related to gold mining, mercury use/trade, and formalization	More specific laws (including regulations, decrees, etc.) on: ○ Use of mercury in gold mining, especially alluvial ASGM ○ Mercury prohibitions and/or phase-out policies as concerns use in gold mining ○ Trade in mercury, especially for use in gold mining ○ Monitoring, data collection, and data management regarding importation, exportation, domestic commerce, transport, and use of mercury ○ Formalization/pathways to legal gold mining (including positive incentives for formalization and/or reducing or abandoning use of mercury in gold mining) ○ Mining for gold in or near water sources (especially rivers) ○ Prohibited equipment (e.g., suction dredges)
Laws related to IPLC rights and territories	Legal rules relating to: ○ IPLC rights vis-à-vis IPLC territories and natural resources contained therein ○ IPLC rights to clean water and to a healthy environment ○ Free, prior, and informed consent (FPIC) norms and IPLC public participation rights (e.g., as relevant to formalizing or “legalizing” otherwise informal/irregular operations occurring within or affecting IPLC territories)

	○ State obligations to protect IPLCs from outside threats (e.g., incursions by illegal or informal gold miners)
Protected areas	Protected area legislation and related regulations and decrees on: ○ Permitted and prohibited activities (with a focus on gold mining and mining in general) ○ Obligations of the state to maintain area in an ecological shape consistent with protected-area status (with a focus on gold mining and mining in general)
Pollution laws	General provisions (not specific as to activity or pollutant type) or specific provisions (explicitly addressing gold mining, mercury, and/or gold mining using mercury) as to: ○ Water pollution ○ Soil pollution ○ Air pollution ○ Remediation/restoration duties
Enforcement and penalties (including restoration/remediation orders)	Legal rules addressing: ○ Criminal penalties for illegal gold mining with or without mercury (fines, incarceration, and forfeiture of equipment, gold, and proceeds) ○ Administrative penalties for illegal gold mining with or without mercury (fines, forfeiture, and future ineligibility to participate in mining or acquire concessions) ○ Law-enforcement authority, focusing especially on the power of police officers and other law-enforcement actors (e.g., park rangers, customs officials, sub-national authorities) to conduct interdiction, searches, and seizures of illegal gold mining operations and associated activity (e.g., attempts to smuggle mercury across international borders) ○ Community assistance in monitoring and enforcement

Beyond the primary categories set forth above, the author engaged in selective research of several additional topics that, depending on the country, bear on the issue of informal and illegal ASGM using mercury. This selective, supplementary research included review of provisions on:

- criminalization of activities that often accompany or facilitate illegal mining (e.g., conspiracy, obstruction, permit fraud, unlawful entry in protected areas or IPLC territories, recruitment/solicitation, human trafficking, prostitution);
- treatment of illegal gold mining and mercury trafficking as organized crime;
- money laundering laws focused on proceeds from gold mining/money used to fuel gold mining;
- regulation of gasoline, diesel, and equipment purchases;
- protections for whistleblowers, denouncing parties, and environmental defenders;
- gold traceability;
- taxes and royalties;
- alternatives to mercury and state incentives or support to promote such alternatives; and
- the development of specialized prosecutorial units.

In general, the author researched these topics only when prior research suggested the country had taken especially significant legal steps in the area at question. Further note that while “gold

traceability” and “alternatives to mercury” are highly relevant to the subject-matter of this report, this report gives them only cursory treatment—not because they merit as much, but because they go beyond the scope of the report.

Finally, as concerns IPLCs and gold mining, a few framing notes are in order. First, the term “IPLC” encompasses multiple peoples and communities that are sometimes treated differently under national and international law. The implications of joining “Indigenous peoples” and “local communities” into a single term—to say nothing of which groups may fall within one category or the other—have been debated for years. At the level of multilateral environmental agreements, the term “IPLC” is perhaps most closely associated with the Convention on Biological Diversity (CBD). (The Minamata Convention does not use the term, and in fact only mentions “Indigenous communities” a pair of times, in the Preamble.) In Article 8(j), on *in situ* conservation, the CBD acknowledges “the close and traditional dependence of many Indigenous and local communities embodying traditional lifestyles on biological resources.”³ In 2014, the Parties agreed to add the word “peoples” to future CBD documents, i.e., they agreed to use the term “Indigenous peoples and local communities.”⁴ Yet in the same Decision the Parties noted that the shift in terminology should not be read to imply any change in legal rights or duties under the CBD.⁵

And while the term “IPLC” makes for a useful reference to the fact that communities living in closer contact with nature both (1) play a critical role in maintaining biodiversity, and (2) frequently suffer disproportionately from biodiversity loss and degradation of ecosystems, the term continues to provoke worry among many stakeholders. The chief concern flows from the term’s arguable equation of Indigenous communities with non-Indigenous communities, which some contend threatens to dilute distinct legal rights held by the former.⁶ After all, many other treaties, national laws, court decisions, and soft-law instruments (e.g., the United Nations Declaration on the Rights of Indigenous Peoples) contemplate unique legal treatment for “Indigenous peoples” but not necessarily for other “local communities.”

In the specific context of gold mining with mercury in the Amazon, it is not always easy to discern “Indigenous peoples” from non-Indigenous “local communities.” Demarcation of Indigenous territories is an incomplete task in the countries that share the Amazon Basin, and the fluid dynamics of population movement and community evolution can belie a categorical approach. In Bolivia, for example, a collapse of the tin mining sector in the western Andes and *altiplano* region in the 1980s eventually led to mass migration of Aymara and Quechua families to the lush, tropical escarpments of Bolivia’s eastern and northern Andes.⁷ Many of these individuals and the communities they formed in their new forested environments identify as Indigenous—which rings true in many senses of the term—but they are not necessarily “Indigenous” in the sense of bearing deep ancestral roots to their current homeland. Perhaps this makes them “local communities” in the IPLC rubric, but that only raises, rather than answers, the fundamental questions: What rights and privileges may such communities claim? What obligations does the state owe to such

³ Convention on Biological Diversity, Art. 8(j).

⁴ UNEP/CBD/COP/DEC/XII/12, <https://www.cbd.int/doc/decisions/cop-12/cop-12-dec-12-en.pdf>.

⁵ *Id.*

⁶ See, e.g., <https://grist.org/global-indigenous-affairs-desk/iplc-the-acronym-that-is-keeping-indigenous-advocates-up-at-night/> (“It’s one thing for state governments to be expected to get the consent of Indigenous peoples before carving out a new protected area. It’s quite another if states can say that they need ‘IPLC’ consent and can argue that local communities’ support outweighs Indigenous opposition, effectively drowning out the voices of Native peoples and diminishing their rights.”); but see *id.* (later noting view that “linking Indigenous peoples with local communities in conservation treaties is necessary for achieving biodiversity objectives.”).

⁷ <https://news.mongabay.com/2024/12/bolivias-internal-colonization-and-its-march-to-the-east/>

communities? And what happens if such communities, living and working near or within territories claimed by other Indigenous peoples, engage in activity that causes harm to the environment or is otherwise incompatible with the rights and preferences of the other Indigenous community. Law does not always have a ready answer to these questions.

Setting aside the definitional questions around the meaning and scope of the term “IPLC,” there is no doubt that some members of IPLC communities engage in mercury-based gold mining. For example, in late 2024, Brazilian authorities conducted an enforcement operation within the Munduruku tribal territory on the Tapajos river, uncovering an illegal gold mining site manned at least in part by tribal members.⁸ A follow-up report by Reuters discovered evidence that the Munduruku community is split over the issue, with a majority opposing mining but a sizeable group participating in the activity out of economic desperation. According to the report, “tribal leaders estimate 40% of the gold mining on the [Munduruku] reservation is carried out by Indigenous people today.”⁹ Similar dynamics have been documented in Peru, Colombia, Bolivia, and Ecuador.

This is not to suggest that IPLCs are the main protagonists of mercury-based gold mining in the Amazon Basin. To the contrary, IPLC communities tend to suffer disproportionately from the negative impacts of ASGM, which is more typically perpetrated by “outsiders”—individuals and groups external to the IPLC communities. Investigative journalism and other reports from each of the focus countries indicate that some of the most damaging and intensive mercury-based gold mining is conducted in or near IPLC communities by outsiders.¹⁰

In short, the term IPLC is deceptively complex. Although this report uses the term frequently (and generally in ways consistent with the term’s use in the CBD space and academic literature), the reader is encouraged to keep in mind the nuance that this term may tend to mask. In some scenarios, and depending upon national law, the distinction between “IP” and “LC” may be legally consequential. In other scenarios, both the umbrella term (“IPLC”) and its component terms (“IP” and “LC”), tending as they do to imply monolithic or completely unified communities, may pair poorly with facts on the ground (e.g., if members of a single Indigenous community are split over whether to engage in, or allow others to engage in, gold mining with mercury in community waterways).

As a survey report, covering five countries, this document does not attempt to navigate these issues with any great rigor. Instead, the author simply encourages the reader to bear in mind some of the nomenclature issues and recognize that, when these issues arise in concrete scenarios, they will likely call for a case-by-case analysis (including, critically, analysis of local and national law and practice).

⁸ <https://www.reuters.com/business/environment/indigenous-mining-complicates-brazils-fight-against-illegal-gold-2024-12-02/>

⁹ <https://www.reuters.com/business/environment/indigenous-mining-complicates-brazils-fight-against-illegal-gold-2024-12-02/>

¹⁰ See, e.g., Carol Sánchez, *Illegal Mining in Colombia’s Amazon Threatens Indigenous Communities*, Mongabay (Aug. 24, 2021), <https://news.mongabay.com/2021/08/illegal-mining-in-colombias-amazon-threatens-indigenous-communities/> (describing encroachment by “outsiders,” as well as collusion between some indigenous residents and outside mining interests); Yolanda Booyzen, *New Database Reveals the Struggle for Human Rights and Environmental Justice in Bolivia*, HURIDOCs (Oct. 13, 2022), <https://huridocs.org/2022/10/new-database-reveals-the-struggle-for-human-rights-and-environmental-justice-in-bolivia/> (describing a violent attack that “occurred in Madidi National Park when illegal miners targeted members of the Senate’s Land and Territory Committee and representatives from Amazonian Indigenous organisations”).

III. Minamata Convention and Other Treaty Commitments

While national law and policy may play a more obvious role in regulating the use of mercury in gold mining and associated issues—exerting legal force on non-state actors like miners and importers, providing legal mandates for ministries and public officers, and investing IPLCs and civil society with rights and vehicles of redress—there is no question that international law and policy directly influences the character and vigor of its domestic counterparts. In the cases of Bolivia, Brazil, Colombia, Ecuador, and Peru, all five countries are Parties to a series of treaties and other international instruments that bear a significant relationship to mercury-based gold mining. While the most important of these is clearly the Minamata Convention, other instruments play a crucial role in addressing associated matters like biodiversity and IPLC rights. In addition, international jurisprudence, particularly from the Inter-American Court of Human Rights, complements this suite of treaties and declarations by both (1) clarifying international law as concerns the interstitial spaces between such instruments, and (2) crystalizing the import of international law in concrete, tangible cases.

A. The Minamata Convention

The overarching objective of the Minamata Convention, to which all five focus countries are Parties, is “to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.”¹¹ Recognizing that artisanal and small-scale gold mining (ASGM) is a major source of mercury emissions, the Convention contains an entire Article on this sector. Specifically, as concerns ASGM, each Party is required to “take measures to reduce and, where feasible, eliminate the use of mercury and mercury compounds from such activities and the emissions and releases of mercury into the environment resulting from them.”¹² Notably, and in contrast to the use of mercury for certain other purposes (e.g., manufacturing processes in which mercury or mercury compounds are used),¹³ wherein the treaty contains strict phase-out deadlines, the Minamata Convention does not command countries to prohibit the use of mercury in ASGM, neither immediately nor eventually. Rather, the treaty’s vision is flexible but firm: Parties should make concerted efforts to reduce mercury in ASGM. In some national contexts, that may mean elimination. In others, it may mean something short of that.

¹¹ Minamata Convention, Art. 1.

¹² Minamata Convention, Art. 7, para. 2.

¹³ Minamata Convention, Art. 5.

Procedurally, the Minamata Convention pursues the goals of Article 7 by requiring each Party to (1) notify the Secretariat if the Party determines that ASGM in its territory “is more than insignificant,” and (2) in the case of such a determination, develop a “national action plan” (NAP) in accordance with specific criteria set forth in an annex to the treaty.¹⁴ These NAPs, when developed with care, contain both a wealth of information on national laws and policies and, more importantly for purposes of the Convention, articulate roadmaps for reduction of mercury use in ASGM, increased formalization within the ASGM sector, and more.

In the cases of Bolivia, Brazil, Colombia, Ecuador, and Peru, national law and policy reflect a range of approaches and varied progress toward the goal of reduction or elimination of mercury in ASGM. These laws and policies are discussed in detail in Section IV (“Country Analysis: Challenges and Laws”).

At a narrower but no less important level, each focus country has also engaged in important work explicitly tied to the Minamata Convention and reflected on the Convention website. For Peru, Colombia, and Ecuador, this work includes the development of a NAP. Brazil and Bolivia, on the other hand, have not yet submitted NAPs, although it appears both countries are actively working on them.¹⁵ Highlights from the Convention website include the following:

- **Bolivia¹⁶**

- Although Bolivia has not yet developed a NAP despite submitting a notification in 2019 of “more than insignificant” ASGM mercury emissions,¹⁷ it has shared some

“Artisanal and small-scale gold mining”

The Minamata Convention defines “artisanal and small-scale gold mining” (ASGM) as “gold mining conducted by individual miners or small enterprises with limited capital investment and production.” This term, together with its operative uses in Article 7 and Annex C, is designed to capture the gold-mining sectors most strongly associated with mercury and informality.

However, while the term is clear enough in the context of the treaty, it is worth noting that the definition does not always map on perfectly to national law. Parties may, in national legislation, draw important distinctions between “artisanal” mining, on the one hand, and “small-scale” mining, on the other; they may also use varied or additional terms, like “subsistence” or “ancestral” mining, and regulate those sectors far differently than ASGM operators. Finally, the definitional criteria for “artisanal” or “small-scale” mining, even if those terms are used in national legislation, may diverge from the treaty (e.g., where the treaty focuses on “limited capital investment,” national legislation may define “artisanal” gold mining as mining without heavy machinery).

This report does not attempt to fully deconstruct ASGM or closely associated national terms. Rather, insofar as helpful to the analysis, this report discusses ASGM-like terms used in national laws and policies. Readers should simply be aware that national law definitions of terms like or associated with ASGM may not mirror the Minamata definition.

¹⁴ Minamata Convention, Art. 3.

¹⁵ See <https://abi.bo/index.php/polititca2/59776-bolivia-preve-hasta-julio-concluir-plan-para-la-eliminacion-del-uso-del-mercurio> (stating that Bolivia hopes to conclude its NAP by July 2025); <https://www.unep.org/gef/projects/development-national-action-plan-artisanal-and-small-scale-gold-mining-brazil> (showing an expected finalization date of August 2025). In the case of Brazil, conversation with local observers confirmed Brazil’s ongoing efforts but did not provide a clear sense of timing.

¹⁶ Bolivia became a Party when it ratified the Minamata Convention through Law 759 of 2015.

¹⁷

https://minamataconvention.org/sites/default/files/documents/notification/Bolivia_Article7.3_ASGMnotification.pdf

helpful information through other documents submitted to the Secretariat. These documents include, *inter alia*, a 2017 National Inventory of Sources of Mercury Emissions¹⁸ and a 2023 Short National Report.¹⁹

- In its 2017 National Inventory of Sources of Mercury Emissions, Bolivia attributed 82.3% of mercury emissions to gold mining. Bolivia candidly stated that it faces a “challenge in the design and implementation of support measures and actions for mitigating mercury emissions and applying appropriate alternative gold recovery technologies.”²⁰ In terms of next steps, the report was vague but nonetheless expressed at least some appetite for concrete action, stating as follows: “The next recommended steps, based on this inventory, are the management and implementation of specific projects, for example, in the area of artisanal gold mining or in sectors such as natural gas extraction and processing or open-air burning of general waste in the country.”²¹
- In its 2023 Short National Report, Bolivia again stressed the difficult situation it faces but also noted what appears to be progress, particularly through work with PlanetGold, although the report was short on details (and supplemental research failed to uncover significant additional information). Specifically, Bolivia reported that it has not “endeavored to identify individual stocks of mercury or mercury compounds exceeding 50 metric tons and sources of mercury supply generating stocks exceeding 10 metric tons per year that are located within its territory.”²² Likewise, the report acknowledged “there are no facilities for the final disposal of mercury or mercury compounds,” as “this technology is not available in the country.”²³ On a more positive note, the report stated that Bolivia is “initially” taking actions “to gradually reduce mercury”; “[p]rioritizing national plans within the framework of Article 7 and seeking alternatives to the use of mercury through PlanetGold”; working on “regulating imports,” as well as “clearly establishing internal trade” rules. Bolivia noted, however, that much of this work is dependent on funding.²⁴ The current economic crisis in Bolivia (evidenced by fuel shortages and soaring inflation) seems to underscore the point.

- **Brazil**²⁵

¹⁸ https://minamataconvention.org/sites/default/files/documents/minamata_initial_assessment/Bolivia-MIA-2017-SP.pdf

¹⁹

https://minamataconvention.org/sites/default/files/documents/national_report/Report_Bolivia_2023_Spanish.pdf

²⁰ https://minamataconvention.org/sites/default/files/documents/minamata_initial_assessment/Bolivia-MIA-2017-SP.pdf

²¹ https://minamataconvention.org/sites/default/files/documents/minamata_initial_assessment/Bolivia-MIA-2017-SP.pdf

²² <https://minamataconvention.org/en/documents/second-short-national-report-2023-bolivia>

²³ <https://minamataconvention.org/en/documents/second-short-national-report-2023-bolivia>

²⁴ <https://minamataconvention.org/en/documents/second-short-national-report-2023-bolivia>

²⁵ Ratification through Decree No. 9470 (2018).

- Like Bolivia, Brazil has yet to develop a NAP despite notifying the Secretariat of “more than insignificant” ASGM using mercury in 2019.²⁶ Per the terms of the Convention, Parties are to develop a NAP whenever they make such a determination.
- In its First Full National Report, submitted in 2021, Brazil stated that it was in the process of drafting a NAP.²⁷
- In 2022, the GEF awarded a grant to assist Brazil with its NAP. The grant end date is August 31, 2025.²⁸
- According to conversations with local observers, the NAP process was sidelined during the Bolsonaro administration. It seems that a NAP should be released soon, even if the precise timing remains uncertain.
- In more encouraging news, Brazil reported in its 2023 Short Report significant success in the seizure of mercury. Specifically, Brazil reported that IBAMA had seized over 960 kilograms of mercury, although the report does not indicate the dates or sources of these seizures.²⁹

- **Colombia³⁰**

- In late 2023, Colombia issued its NAP.³¹
- Spanning nearly 100 pages, Colombia’s NAP is dense but essential reading on the government’s official thinking on the mercury problem.
- A significant amount of the NAP is dedicated to discussion of existent laws and policies—the heart of Section IV of this report—and therefore bears no repeating here.
- In terms of strategy going forward, the NAP articulates approaches focused on the following objectives:
 - to eliminate the worst practices involving mercury in ASGM mining;
 - to formalize (i.e., legalize) as many informal gold miners as possible;
 - to reduce mercury emissions and exposure risks;
 - to improve responses related to illegal commerce in, and smuggling of, mercury;
 - to reduce illegal gold mining;

²⁶ <https://minamataconvention.org/en/documents/brazil-notification-article-73>

²⁷ *Id.*

²⁸ <https://www.unep.org/gef/projects/development-national-action-plan-artisanal-and-small-scale-gold-mining-brazil>

²⁹

https://minamataconvention.org/sites/default/files/documents/national_report/Report_Brazil_2023_Amended_English.pdf

³⁰ Ratification through Ley 1892 de 2018; see also Sentencia C-275 del 19 de junio de 2019 (upholding ratification of Minamata Convention as constitutional), <https://www.corteconstitucional.gov.co/relatoria/2019/C-275-19.htm#:~:text=C%2D275%2D19%20Corte%20Constitucional%20de%20Colombia&text=En%20virtud%20del%20numeral%2010%2C,las%20leyes%20que%20los%20aprueben>.

³¹ https://minamataconvention.org/sites/default/files/documents/national_action_plan/Colombia-ASGM-NAP-2024-SP.pdf

- to enhance stakeholder participation in implementation and improvement of the NAP (envisioning something of an adaptative or dynamic implementation model);
- to disseminate knowledge and foster social acceptance of mercury-free gold mining;
- to address gender, child labor, and human rights concerns in ASGM using mercury; and
- to improve public health.
- The NAP closes by calling for the creation of technical and management committees for monitoring progress, compliance, and impact.

- **Ecuador³²**

- Ecuador published its NAP in 2020.³³ This document sets forth the factual realities of ASGM using mercury in Ecuador, basic legal frameworks, reduction objectives, and a roadmap for achieving those objectives.³⁴
- As concerns implementation, Ecuador's NAP sketches the following seven, interrelated strategies:
 - a strategy for formalization of gold miners;
 - a strategy to reduce emissions of mercury in ASGM, to reduce the risk of exposure to mercury for miners and others, and to eliminate the worst practices;
 - a strategy to address illegal trade and use of mercury;
 - a strategy to reduce illegal gold mining;
 - a strategy to provide public health services to populations exposed to mercury from ASGM;
 - a strategy focused on gender and child labor issues in the ASGM sector; and
 - a strategy to facilitate participation in, and dissemination of information concerning, the continuing implementation of Ecuador's NAP.³⁵
- In addition to its NAP and Short National Reports, Ecuador's Minamata Party profile page contains information on the country's participation in a "Specific

³² Ratification in 2016.

³³ https://minamataconvention.org/sites/default/files/documents/national_action_plan/NAP-Ecuador-May2020-ES.pdf

³⁴ https://minamataconvention.org/sites/default/files/documents/national_action_plan/NAP-Ecuador-May2020-ES.pdf

³⁵ https://minamataconvention.org/sites/default/files/documents/national_action_plan/NAP-Ecuador-May2020-ES.pdf

International Program.”³⁶ This program, scheduled to run from June 2021 to June 2024, was designed to “support the identification of significant sources of emissions and releases of mercury, analyze mercury concentrations in water, air, soil, and sediments, and assess optimization of relevant existing processes, technologies and infrastructures available in Ecuador.”³⁷ The project further contemplated that these activities would lead to the development of an action plan with, *inter alia*, management strategies and “proposals to strengthen the legal framework for the implementation of effective control measures and tools through inter-institutional or sectorial coordination and cooperation.”³⁸

- **Peru**³⁹

- Although Peru has a NAP posted to the Minamata website, the document is considerably different in form and substance than the NAPs published by the other focus countries.⁴⁰
- Peru’s NAP, issued in 2019, is in fact Supreme Decree No. 004-2019-MINAM, entitled “Approval of the National Action Plan of the Minamata Convention on Mercury.”
- Immediately, it should be noted that, on its face, this document is not exactly the “national action plan” called for by Article 7 and described in further detail in Annex C to the Convention. While Article 7 and Annex C mandate production of a “national action plan,” the plans contemplated in that Article and Annex concern use of mercury in ASGM, not mercury writ large. Peru’s NAP available on the Convention website, in contrast, speaks to almost every Article in the treaty, going far beyond ASGM as such.
- Issued by then-President Martin Vizcarra and his cabinet, Supreme Decree No. 004-2019-MINAM establishes a framework, with deadlines, for individual ministries to undertake various tasks associated with the Minamata Convention. It essentially reads as a master calendar for implementation of the Convention, with tersely described “activities,” “indicators,” and “results” corresponding to Articles 3 through 21 of the treaty. Although the Ministry of Environment and the Ministry of Energy and Mines are charged with the heavy lifting, other executive agencies, like the Tax and Customs Service, bear responsibilities as well.
- Unfortunately, at least as concerns activities related to ASGM, it appears that Peru’s NAP has thus far gone unfulfilled. The Supreme Decree directed the Ministry of Energy and Mines to develop a National Action Plan specific to the ASGM sector between April 2019 and June 2020. (Here, then, we can see implicit

³⁶ Available at <https://minamataconvention.org/en/parties/ecu>

³⁷ *Id.*

³⁸ *Id.*

³⁹ Ratification through Resolución Legislativa 30352, https://leyes.congreso.gob.pe/Documentos/ExpVirPal/Texto_Consolidado/30352-TXM.pdf

⁴⁰ <https://minamataconvention.org/en/documents/national-implementation-plan-peru>

recognition by Peru that its current global NAP is not, in fact, the NAP that it must produce to comply fully with Article 7.) Yet, as of this writing, this has not happened.

- This is not to say Peru has made no efforts to produce a proper Article 7 NAP focused on mercury use in ASGM. To the contrary, in January 2024, the Ministry of Environment published a draft National Action Plan for ASGM, posting the document to a government website and soliciting comments, both from the public and other Ministries.⁴¹
- Without attempting to evaluate its substantive merits, the draft National Action Plan for ASGM is certainly comprehensive insofar as it addresses nearly every aspect of mercury use in ASGM.⁴² Like the broader NAP discussed above, it again includes something like a master calendar, setting forth basic tasks (although now specific to ASGM), responsible entities, and deadlines.⁴³ For example, tiering down from Peru's global NAP, the draft ASGM NAP sets forth three activities or tasks designed to advance the goal of formulating "targets and regulation to reduce mercury emissions and releases" associated with ASGM.⁴⁴ One of the three activities is to develop a "normative proposal [i.e., a proposed law or regulation] for the reduction of mercury emissions and releases" from ASGM.⁴⁵ The draft ASGM NAP states that this should occur within the second year following approval of the draft ASGM NAP. It names the ministries that would be responsible for developing this proposal. Scrolling down, the draft ASGM NAP contains much more detailed information on contemplated actions and indicators for each activity (although, curiously, little information as to ideas for legal reform as such).
- Unfortunately, this draft ASGM NAP seems to have withered on the vine. Formally, the procedural deadlines associated with moving from draft to approved plan have lapsed.
- An expert interviewed for this report suggested internal and cross-ministry conflicts as one reason for the draft's failure. The expert was not optimistic about the draft's revival in the near future.

⁴¹ <https://www.gob.pe/institucion/minam/normas-legales/5144122-020-2024-minam>

⁴² <https://cdn.www.gob.pe/uploads/document/file/5797368/5144122-plan-mape-mercurio.pdf?v=1706882355>

⁴³ <https://cdn.www.gob.pe/uploads/document/file/5797368/5144122-plan-mape-mercurio.pdf?v=1706882355>

⁴⁴ *Id.*

⁴⁵ <https://cdn.www.gob.pe/uploads/document/file/5797368/5144122-plan-mape-mercurio.pdf?v=1706882355>

B. The Convention on Biological Diversity and the Kunming-Montreal Global Biodiversity Framework

While not directly focused on either mining or mercury, the Convention on Biological Diversity (CBD) and the Kunming-Montreal Global Biodiversity Framework (GBF), adopted during the fifteenth Conference of the Parties to the CBD, nevertheless have a strong bearing on these issues. With its nearly global scope (196 Parties, including all Amazon countries) and overarching goals to conserve and promote the sustainable use of biological diversity, the CBD has much to say on, *inter alia*, management of tropical forests, riverine flora and fauna, and entire ecosystems like those found throughout the Amazon Basin. Because gold mining using mercury is such a major threat to the Amazon's biological diversity and ecosystem integrity, the CBD is an important

The Ramsar Convention and Mercury Contamination

The Ramsar Convention aims to achieve “the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.” To do this, the Convention asks Parties to: (1) work towards the “wise use” of all their wetlands, whether designated as Wetlands of International Importance (Ramsar Sites) or otherwise; (2) designate suitable wetlands for inclusion in the list of Wetlands of International Importance and “promote the conservation” and effective management of such Ramsar Sites; and (3) cooperate internationally on transboundary wetlands, shared wetland systems, and shared species.

Although it is unclear whether gold mining using mercury has significantly impacted any of the Ramsar Sites in the Amazon Basin, further investigation on this topic may be warranted. If gold mining using mercury has altered the “ecological character” of any of any Ramsar Site, this triggers further Party obligations and opportunities for civil-society engagement.

space for the development of policy related to this issue. Now, with the GBF in place, Parties have new and clearer opportunities and obligations to advance the goals of the CBD, including through reduction of mercury use in gold mining and mitigation of this activity's adverse effects.

In developing National Biodiversity Strategies and Action Plans (NBSAPs) under Article 6 of the CBD, Parties can and should include measures aimed at reducing the use of mercury in gold mining—and, for that matter, measures addressing related topics like formalization—as such measures speak to several of the GBF targets.⁴⁶ Without risking any hyperbole, gold mining using

mercury in the Amazon Basin, at its current scale and mode of operation, is simply incompatible with the GBF targets related to the reduction of pollution from hazardous chemicals, restoration of degraded terrestrial and freshwater ecosystems, the cessation of further losses of biodiverse rich areas, and the preservation of sustainable livelihoods for IPLC communities, among others.⁴⁷ The following table highlights a small sampling of the targets that match well with NBSAP measures focused on gold mining using mercury.

⁴⁶ Here, it is important to note that at least some NBSAPs prior to the advent of the GBF have already addressed mercury in mining. See, e.g., Rwanda's 2016 NBSAP, at https://www.rema.gov.rw/fileadmin/templates/Documents/rema_doc/publications/Planning%20docs/NATIONAL%20BIODIVERSITY%20STRATEGY%20AND%20ACTION%20PLAN%20Final%20version.pdf

⁴⁷ See generally <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>

Table 2⁴⁸. KMGBF Targets of relevance to mercury pollution with a crosswalk to elements of ASGM National Action Plans.

NBSAP Target	NAP Element (Annex C)
Target 1. Ensure that all areas are under participatory integrated biodiversity inclusive spatial planning and/or effective management processes addressing land and sea use change, to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030, while respecting the rights of indigenous peoples and local communities.	1(b) Take actions to eliminate the four worst practices: • whole ore amalgamation • open burning of amalgam or processed amalgam • burning of amalgam in residential areas • cyanide leaching in sediment, ore or tailings to which mercury has been added without first removing the mercury 1(c) Take steps to facilitate formalization or regulation of the ASGM sector. 1(d) Develop baseline estimates of the quantities of mercury used and the practices employed in ASGM and processing within its territory. 1(i) Strategies to prevent the exposure of vulnerable populations, particularly children and women of child-bearing age, especially pregnant women, to mercury used in artisanal and small-scale gold mining
Target 2. Ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity.	1(c) Take steps to facilitate formalization or regulation of the artisanal and small-scale gold mining sector.
Target 3. Ensure and enable that by 2030 at least 30% of terrestrial, inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where	1(c) Take steps to facilitate formalization or regulation of the artisanal and small-scale gold mining sector. 1(e) strategies for promoting reduction of emissions and releases of, and exposure to mercury in artisanal and small-scale gold mining and processing, including mercury-free methods.

⁴⁸ Table adapted from: Integrating action to reduce mercury pollution from artisanal and small-scale gold mining into the Kunming-Montréal Global Biodiversity Framework National Biodiversity Strategies and Action Plans: Technical Support. Submitted by The Nature Conservancy to the Minamata Secretariat. April 2025.

applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities, including over their traditional territories	
There are 3 Targets related to food consumption: Target 5. Ensure that the use, harvesting and trade of wild species is sustainable, safe and legal, preventing overexploitation, minimizing impacts on non-target species and ecosystems, and reducing the risk of pathogen spill-over, applying the ecosystem approach, while respecting and protecting customary sustainable use by indigenous peoples and local communities Target 9. Ensure that the management and use of wild species are sustainable, thereby providing social, economic and environmental benefits for people, especially those in vulnerable situations and those most dependent on biodiversity, including through sustainable biodiversity-based activities, products and services that enhance biodiversity, and protecting and encouraging customary sustainable use by indigenous peoples and local communities Target 16. Ensure that people are encouraged and enabled to make sustainable consumption choices including by establishing supportive policy, legislative or regulatory frameworks, improving education and access to relevant and accurate information and alternatives, and by 2030, reduce the global footprint of consumption in an equitable manner, including through halving global food waste, significantly reducing overconsumption and substantially reducing waste generation, in order for all people to live well in harmony with Mother Earth	1(e) strategies for promoting reduction of emissions and releases of, and exposure to mercury in artisanal and small-scale gold mining and processing, including mercury-free methods. 1(h). A public health strategy on the exposure of artisanal and small-scale gold miners and their communities to mercury. Such a strategy should include, inter alia, the gathering of health data, training for health-care workers and awareness-raising through health facilities 1(i). Strategies to prevent the exposure of vulnerable populations, particularly children and women of child-bearing age, especially pregnant women, to mercury used in artisanal and small-scale gold mining 2. Each Party may include in its National Action Plan additional strategies to achieve its objectives, including the use or introduction of standards for mercury-free artisanal and small-scale gold mining and market-based mechanisms or marketing tools.
Target 7. Reduce pollution risks and the negative impact of pollution from all sources, by 2030, to levels that are not harmful to biodiversity and ecosystem functions and services,	1(b) Take actions to eliminate the four worst practices: • whole ore amalgamation • open burning of amalgam or processed amalgam

considering cumulative effects, including: reducing excess nutrients lost to the environment by at least half including through more efficient nutrient cycling and use; reducing the overall risk from pesticides and highly hazardous chemicals by at least half including through integrated pest management, based on science, taking into account food security and livelihoods; and also preventing, reducing, and working towards eliminating plastic pollution	• burning of amalgam in residential areas • cyanide leaching in sediment, ore or tailings to which mercury has been added without first removing the mercury 1(c). Steps to facilitate the formalization or regulation of the ASGM sector, including: • engaging stakeholders • developing, implementing, and enforcing policies • monitoring and enforcement facilitating access to markets and creating economic incentives 1(d). Baseline estimates of the quantities of mercury used and the practices employed in artisanal and small-scale gold mining and processing within its territory 1(e). Strategies for promoting the reduction of emissions and releases of, and exposure to, mercury in artisanal and small-scale gold mining and processing, including mercury-free methods 1(f). Strategies for managing trade and preventing the diversion of mercury and mercury compounds from both foreign and domestic sources to use in artisanal and small-scale gold mining and processing
Target 21. Ensure that the best available data, information and knowledge, are accessible to decision makers, practitioners and the public to guide effective and equitable governance, integrated and participatory management of biodiversity, and to strengthen communication, awareness-raising, education, monitoring, research and knowledge management and, also in this context, traditional knowledge, innovations, practices and technologies of indigenous peoples and local communities should only be accessed with their free, prior and informed consent,²³ in accordance with national legislation	1(g). Strategies for involving Indigenous rights-holders and other stakeholders in the implementation and continuing development of the national action plan
Target 22. Ensure the full, equitable, inclusive, effective and gender-responsive representation and participation in decision-making, and access to justice and information related	1(g). Strategies for involving Indigenous rights-holders and other stakeholders in the implementation and continuing development of the national action plan

to biodiversity by indigenous peoples and local communities, respecting their cultures and their rights over lands, territories, resources, and traditional knowledge, as well as by women and girls, children and youth, and persons with disabilities and ensure the full protection of environmental human rights defenders Target 23. Ensure gender equality in the implementation of the framework through a gender-responsive approach where all women and girls have equal opportunity and capacity to contribute to the three objectives of the Convention, including by recognizing their equal rights and access to land and natural resources and their full, equitable, meaningful and informed participation and leadership at all levels of action, engagement, policy and decision-making related to biodiversity	1(i). Strategies to prevent the exposure of vulnerable populations, particularly children and women of child-bearing age, especially pregnant women, to mercury used in artisanal and small-scale gold mining 1(j). Strategies for providing information to artisanal and small-scale gold miners and affected communities
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C. The Amazon Cooperation Treaty and the Declaration of Belém

Recognizing that the Amazon Basin transcends national boundaries, Bolivia, Brazil, Colombia, Ecuador, Peru, Suriname, and Venezuela forged the Amazon Cooperation Treaty (ACT) in 1978. The treaty is framed by the Parties' overarching agreement to "undertake joint actions and efforts to promote the harmonious development of their respective territories in such a way that these joint actions produce equitable and mutually beneficial results and achieve also the preservation of the environment, and the conservation and rational utilization of the natural resources of these territories."⁴⁹ As a broad framework treaty, the ACT itself imposes few if any substantive obligations, but instead "encourages, institutionalizes and guides regional cooperation between" the Parties.⁵⁰

Undergirded by the ACT, this regional cooperative work is carried out by the Amazonian Cooperation Treaty Organization (ACTO). Apart from serving as an important negotiating block in other treaty spaces, the ACTO has designed and led numerous initiatives—from high-level regional plans to discrete projects—within eight broad working areas, including Natural Resources, Health, and Indigenous People.⁵¹

⁴⁹ <https://otca.org/en/wp-content/uploads/2021/01/Amazon-Cooperation-Treaty.pdf>

⁵⁰ <https://otca.org/en/project/amazon-cooperation-treaty/>

⁵¹ *Id.*

As concerns mercury, one of the more important developments came in 2023 with the Declaration of Belém, released at the close of a meeting of the Leaders of State Parties to the ACT at Belém do Pará, Brazil. A sweeping document, the Declaration of Belém injects new energy into the ACT/ACTO by calling for development of a fresh agenda responsive to contemporary and emerging problems in the Amazon Basin. Although the Declaration of Belém mentions mercury in only three places (see textbox at right),⁵² the importance of these references should not be underestimated. They represent points of basin-wide agreement, however non-binding, responsive to the problem of mercury. Civil-society organizations and IPLC advocates, among others, may latch on to these mercury-related statements to push the ACTO, and its constituent Party governments, to follow through on their words.

Further, although not specific to mercury and gold mining, the Declaration of Belém highlights the importance of a new center focused on police cooperation among Amazon Basin countries. This new center, named “the Amazon International Police Cooperation Center,” with headquarters in Manaus, will, in the words of the Declaration of Belém, “articulate with the competent authorities of each State Party, for the exchange of information, intelligence and the development of investigations, warnings and training activities so as to strengthen regional

Mercury and Gold Mining in the Declaration of Belém

In the Declaration of Belém, the signing countries committed to:

- “Stimulate the strengthening of actions for monitoring water quality for human consumption in the region, including joint technical-scientific studies and research, focusing on the exposure to mercury and other hazardous substance from mining activities/small-scale and large-scale mining, in particular those that affect indigenous peoples and local and traditional communities, and to carry out prevention and remediation activities and to strengthen regional and international cooperation for the fight against illegal mining, illegal trade, and other related crimes.”*
- “Work in an articulated manner in the implementation of actions for the eradication of the illicit exploitation of minerals and related crimes, including money laundering, especially in terms of exchange of information on the trade and smuggling of mercury and other heavy metals and the harmonization of public policies for their regulation and control.”
- “Strengthen actions to monitor the health of populations exposed to chemicals, particularly mercury, hazardous waste and plastic pollution, and to monitor air quality due to atmospheric pollutants in the Amazon, promoting the exchange of experiences to mitigate risks and negative impacts on human health and environmental quality, considering the commitments assumed by Amazonian countries in international conventions, treaties and agreements on mercury, chemicals, hazardous waste and plastic pollution.”

*With respect to monitoring, it would have been helpful to see an explicit commitment to monitor mercury concentrations in fish, especially higher trophic species consumed by humans. Although it is certainly constructive to measure mercury contamination in local rivers and other water sources, people are contaminated with mercury mostly by eating fish. Higher trophic fish are the superior proxy for measurement because mercury bioaccumulates in such species. Mercury concentrations in water, on the other hand, are highly variable, and much of the mercury is absorbed in sediment particles rather than flowing in the water. To be sure, the delegates that signed the Declaration were aware of the risks of human consumption of fish with high mercury loads, as shown in the language of Paragraph 58, which memorializes the countries’ commitment to “promote . . . the sustainability of artisanal fishing” and “monitoring of fisheries stocks and the quality of fish, with special attention to contamination from economic activities . . . including illegal mining.”

⁵² For more information on the importance of measuring mercury levels in fish used for human consumption, see Health Canada. (2007). Human Health Risk Assessment of Mercury in Fish and Health Benefits of Fish

cooperation and contribute to the eradication of illicit activities, including environmental and related crimes[.]”⁵³ If appropriately funded and administered strategically, the Amazon International Police Cooperation Center could make a big difference in fighting transborder crime in the Amazon region, including mercury trafficking and illegal gold mining.

D. The Andean Community of Nations’ Policy on the Fight Against Illegal Mining and Mercury Observatory

The Andean Community of Nations (a regional integration organization comprising Bolivia, Colombia, Ecuador, and Peru)⁵⁴ is, along with the ACTO, one of the more promising regional spaces for collaborative policy approaches to mercury-based gold mining. The Andean Community has a clear if at times overly general policy on illegal mining and, building on this policy, has established an observatory dedicated to collecting and disseminating information on the mercury trade.

In 2012, the Andean Community issued Decision 774.⁵⁵ Entitled “Andean Policy on the Fight Against Illegal Mining,” Decision 774 remains to this day the Community’s cornerstone on illegal mining. The Decision charts out important positions on several key topics and creates a legal framework for cross-border cooperation, with a particular focus on regional traceability efforts and investigation and enforcement. Yet, according to at least one expert interviewed for this report, the Andean Community—both as a formal collective and as a group of individual countries—has failed to pursue the Decision’s directives with sufficient energy. Apart from the establishment of the observatory (discussed below, and whose work the interviewee commended), it does seem that Decision 774 stands as a helpful but only partially fulfilled blueprint for regional progress. But if Decision 774 to some extent represents a missed opportunity—as would seem to be the case—nothing stops the Andean Community and its member states from redoubling efforts under Directive 774, as the Directive remains in full force and effect.

Textually, Article 2 of Decision 774 provides that its purpose is three-fold: (1) to address in a comprehensive, cooperative, and coordinated manner illegal mining and related activities that threaten security, the economy, natural resources, the environment, and human health; (2) to optimize control and surveillance of the import, export, transport, processing, and commercialization of minerals derived from illegal mining, as well as of machinery, equipment, supplies, inputs, and fuels that may be used in illegal mining or related activities; and (3) to develop cooperative actions that contribute to the formalization of mining, promote social and

Consumption. Bureau of Chemical Safety, Food Directorate, Health Products and Food Branch. Ottawa, ON: Health Canada. Catalogue No. H164-54/2007E-PDF. ISBN: 978-0-662-47023-6;

U.S. Environmental Protection Agency. (2001). Water Quality Criterion for the Protection of Human Health: Methylmercury. EPA-823-R-01-001. Office of Science and Technology, Office of Water, Washington, DC.

⁵³ <https://otca.org/wp-content/uploads/2021/09/Declaracion-de-Belem.pdf>

⁵⁴ <https://www.comunidadandina.org/StaticFiles/DocOf/DEC774.pdf>

⁵⁵ Andean Council of Ministers of Foreign Affairs & Andean Cmty. Comm’n, <https://www.comunidadandina.org/DocOficialesFiles/Gacetitas/Gace2103.pdf>

environmental responsibility, encourage the use of safe and efficient technologies, and assist the economic development and social inclusion of people inhabiting mining zones.

Expanding on the theme of cooperation, Article 4 directs the Andean Community countries to take collaborative action to: (1) combat money laundering and other offenses associated with illegal mining; (2) fortify control and traceability mechanisms for machinery, fuel, equipment, and supplies used in mining, as well as the final product of mining; (3) plan and execute operations against illegal mining through coordinated actions in border zones; (4) collaborate in the identification and prosecution of those who participate in apparatuses or structures organized outside the law to carry out illegal mining and related crimes; (5) restore, remediate, or rehabilitate transboundary ecosystems affected by illegal mining; (6) implement programs, projects, and actions to combat illegal mining and social economic development in the Border Integration Zones; and (7) exchange experiences on processes for the formalization of small-scale, artisanal, or traditional mining and on combating illegal mining.

Finally, Articles 5, 6, 7, and 8 set forth even more pointed directives. Article 5 directs the Parties to adopt any and all legislative, regulatory, or operational measures to advance formalization, to stop illegal mining activities, to ensure the availability of deterrent penalties, to control and monitor imports and sales of inputs used in illegal mining (e.g., mercury, fuel, machinery), to combat laundering of proceeds from illegal mining, to support forfeiture of the instruments and proceeds of illegal mining, and to encourage the development of sustainable mineral supply chains in line with international best practices. Article 6, for its part, authorizes and effectively encourages each Party to permanently seize and, if necessary, destroy, equipment and other materials used in illegal mining. Article 7 pivots to information-sharing, establishing that, within the context of investigations into illegal mining and related activities, the Parties shall exchange information on natural or legal persons that may be involved in commercializing, importing, or exporting minerals, machinery, equipment, inputs, and fuels connected with illegal mining. (Note that this relates to a tool known as “mutual legal assistance,” discussed below in connection with the United Nations Convention against Transnational Organized Crime.) Article 8 then ends by establishing closer cooperation between Andean Community customs agencies as to “trafficking of goods related to illegal mining.”

Building on Decision 774, in 2019 the Andean Community established the “Andean Observatory Responsible for the Management of Official Information on Mercury” (Andean Observatory).⁵⁶ This observatory, whose operating procedures were adopted in 2021, aims to collect, track, and exchange reliable information among member countries regarding the production, import, export, commercialization, transport, and use of mercury.⁵⁷

⁵⁶ Andean Council of Ministers of Foreign Affairs & Andean Cmty. Comm'n, Decision 844, *Creación del Observatorio Andino encargado de la Gestión de la información oficial en materia de Mercurio* [hereinafter Andean Comm. Dec. 844] (May 26, 2019), http://www.sice.oas.org/trade/JUNAC/Decisiones/DEC844_s.pdf

⁵⁷ Andean Community Gen. Secretariat, Res. 2197, *Reglamento de funcionamiento del Observatorio Andino Encargado de la Gestión de la Información Oficial en Materia de Mercurio*, *Gaceta Oficial del Acuerdo de Cartagena*, No. 4229, 1 [hereinafter Andean Comm. Res. 2197] (Apr. 30, 2021).

If its first report (issued in 2021) is any indication, the Andean Observatory seems well positioned to serve as an important regional platform for the exchange of information related to both “facts on the ground” and legal and policy strategies. Among other features, the Andean Observatory appears to be a space for candid discussion of troubling trends. For example, the first report did not shy away from forthright statements on Bolivia’s disproportionate share of mercury imports among Andean Community nations (Bolivia accounted for 80.71% of Andean Community mercury imports between January and June 2021).⁵⁸

Although the present study was unable to determine the degree of NGO and civil-society involvement in the Andean Observatory’s activities, the seriousness of its work merits further investigation. Engagement with the Andean Observatory would seem to be well worth the effort, as its reports and other activities carry the potential to influence both regional and national policy.

E. ILO Convention 169, UNDRIP, the American Convention on Human Rights, and the Escazú Agreement

With only two exceptions, all five countries are Parties to ILO Convention 169 (a.k.a., the Indigenous and Tribal Peoples Convention), the American Convention on Human Rights, and the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (a.k.a., the Escazú Agreement). The exceptions are Peru and Brazil as to the latter instrument; despite signing the Escazú Agreement as adopted in 2018, and despite ongoing pressure from civil-society organizations, Peru and Brazil have yet to ratify or accede to the treaty. Further, all five focus countries have signed the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

With this largely common baseline of international legal instruments—and in many cases deeper or more specific articulation through domestic law—the Amazon region has embraced a core set of legal principles especially but not exclusively relevant to gold mining using mercury in IPLC territories. (Here, however, the reader should recall the nuance of the term “IPLC” discussed in the Methodology section of this report.) Distilled down to their essence, these principles include: (1) rights to ownership and/or possession of traditional lands; (2) considerable sovereignty over renewable natural resources within IPLC territories; (3) a governmental duty to protect IPLCs from

The Duty to Protect Under ILO Convention 169

While some of these principles are more germane than others to ASGM, they all bear at least some relevance when such activity occurs within or otherwise affects IPLC territories.

For example, imagine a situation—hardly counterfactual—in which the government is aware of incursions into a recognized Indigenous territory by outside groups who proceed to mine for gold using mercury. Although not the primary actor, the government in this case has an obligation, at the very least under ILO Convention 169, to intervene in favor of the affected Indigenous community by virtue of Article 7’s command that “[g]overnments shall take measures, in co-operation with the peoples concerned, to protect and preserve the environment of the territories they inhabit” and Article 14’s mandate that “[g]overnments shall take steps as necessary . . . to guarantee effective protection of [covered peoples’] rights of ownership and possession.”

⁵⁸ <https://www.comunidadandina.org/wp-content/uploads/2022/08/I-Informe-Observatorio-Andino-del-Mercurio.pdf>

third-party activities that threaten their rights or the ecosystems upon which they depend; (4) free, prior, and informed consent (or FPIC), and participatory rights in general, vis-à-vis government decision-making that may affect the local environment; (5) access to information, in a culturally and linguistically appropriate form, as concerns matters affecting the local environment; (6) judicial recourse to demand injunctive relief, compensation, restoration, and other remedies in the case of incidents harming the local environment, livelihoods, or human health of covered peoples; and (7) special protection for environmental defenders, activists, or community leaders in light of their vulnerability to intimidation and violent reprisals.

○ **Territorial and Natural Resource Rights**

ILO Convention 169 contains a core set of rights related to territory and natural resources contained therein. These include the right of Indigenous and tribal peoples (1) to own and/or possess the lands which they have traditionally occupied,⁵⁹ (2) to use lands “not exclusively occupied by them, but to which they have traditionally had access for their subsistence and traditional activities,”⁶⁰ (3) to participate in the use, management, and conservation of natural resources within their territories,⁶¹ (4) in the case of sub-surface resources or other resources owned by the State, to consultation and other safeguards prior to exploration and extraction and, thereafter, to share in the benefits and receive compensation for any damages suffered,⁶² and (5) to enjoy governmental protection to prevent outside parties from taking advantage of Indigenous and tribal peoples so as to acquire ownership, possession, or use rights over land.⁶³ This last provision would seem particularly important in the context of gold mining using mercury, as miners and mining cooperatives have illicitly pushed into Indigenous territories in many parts of the Amazon basin.

UNDRIP, for its part, reiterates these rights, in some cases with even greater emphasis on the duty of States not simply to *refrain* from infringing Indigenous peoples’ rights but to provide *affirmative* protection. For example, after reaffirming Indigenous peoples’ rights to their traditional lands and resources, Article 26 stresses that “States shall give legal recognition and *protection* to these lands, territories and resources.”⁶⁴ Continuing in this vein, Article 29 provides that Indigenous peoples “have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources,” but then goes on to state that governments must “establish and implement assistance programmes for indigenous peoples for such conservation and protection[.]”⁶⁵

⁵⁹ ILO Convention 169, Art. 14.

⁶⁰ ILO Convention 169, Art. 14.

⁶¹ Law 21 of 1991; ILO Convention 169, Art. 15.

⁶² Law 21 of 1991; ILO Convention 169, Art. 15.

⁶³ Law 21 of 1991; ILO Convention 169, Art. 17.

⁶⁴ https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

⁶⁵ https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

- **Legal Recourse**

As Parties to ILO Convention 169, the focus countries have committed to offer legal recourse to aggrieved IPLCs in several circumstances. Under the Convention, the State is required to furnish a mechanism by which Indigenous and tribal peoples may initiate “legal proceedings, either individually or through their representative bodies, for the effective protection of [their] rights.”⁶⁶ Moreover, in recognition of disparities around language and legal literacy, the State must take measures (e.g., translation services) to ensure that Indigenous and tribal peoples “can understand and be understood in legal proceedings[.]”⁶⁷

Notably, the fundamental role of legal recourse and access to courts has been underscored and broadened through the Escazú Agreement (see text box at right). Unlike ILO Convention 169, rights-holders under the Escazú Agreement are not limited to Indigenous or tribal peoples but extend to all persons.

Likewise, and as discussed in more detail below, the Inter-American Court of Human Rights has held that access to courts and legal recourse are fundamental rights under the American Convention on Human Rights and international customary law.

- **Jurisprudence from the Inter-American Court**

Interpreting the American Convention on Human Rights (as well as ILO Convention 169 and customary international law in several cases), the Inter-American Court has affirmed several of the above principles in judicial decisions. The Inter-

The Escazú Agreement & Gold Mining with Mercury

Formally called the “Regional Agreement on Access to Information, Public Participation and Access to Justice in Environmental Matters in Latin America and the Caribbean,” the Escazú Agreement is the first binding instrument in the Americas arising from Principle 10 of the 1992 Rio Declaration on Environment and Development. The Escazú Agreement translates the soft-law language of the Rio Declaration into binding obligations for all Parties, which include Bolivia, Colombia, and Ecuador. (Brazil and Peru have signed but not ratified the treaty.)

The Escazú Agreement is built around a handful of core principles and obligations: generation of and access to environmental information (Articles 5 and 6); public participation in environmental decision-making processes (Article 7); access to justice in environmental matters (Article 8); and, beyond the language of Principle 10 and in recognition of the disturbing levels of violence against environmental activists in the region, greater protection for such persons (Article 9).

For actors interested in reducing informal and illegal gold mining and the worst effects of mercury contamination, the Escazú Agreement lends support to the following efforts, among others:

- requests for public records and government-held information (e.g., related to mercury contamination, formalization processes, and historical enforcement efforts);
- litigation against governmental agencies for failure to fulfill legal mandates; and
- advocacy to build stronger protections for IPLC leaders and other environmental defenders who denounce, campaign against, and otherwise work to reduce gold mining using mercury.

⁶⁶ Law 21 of 1991; ILO Convention 169, Art. 12.

⁶⁷ Law 21 of 1991; ILO Convention 169, Art. 12.

American Commission on Human Rights (IACHR), for its part, has piled on with non-judicial but nevertheless authoritative observations. A few of the many jurisprudential highlights over the years include the following:

- Interpreting Article 21 of the American Convention on Human Rights, which enshrines the right of persons to property, the Inter-American Court held that this translates to IPLCs as a right to both traditional territory and traditionally important natural resources. As explained by the Inter-American Court, “the natural resources found on and within indigenous and tribal people’s territories that are protected under Article 21 are those natural resources traditionally used and necessary for the very survival, development and continuation of such people’s way of life.”⁶⁸ Therefore, to the extent that gold mining using mercury threatens traditionally used natural resources like fish, water, and soil, such activity (especially if conducted by outside actors) undermines rights enshrined in the American Convention on Human Rights.
- Relatedly, and returning to the concept of affirmative State duties to prevent and protect, the IACHR has observed that States have a legal obligation to protect IPLCs from third parties seeking to exploit IPLC natural resources, especially when the conflict flows in part from a State’s failure to formalize territorial claims.⁶⁹
- Foreshadowing rights since memorialized in the Escazú Agreement, the IACHR in 1997 observed that “[t]he quest to guard against environmental conditions which threaten human health requires that individuals have access to: information, participation in relevant decision-making processes, and judicial recourse.”⁷⁰ Again, all of these elements, but especially access to effective judicial recourse, seem particularly relevant in the context of environmental harm suffered by IPLCs from gold mining using mercury.
- In the context of concessions to extract natural resources, the Inter-American Court has been particularly adamant about the State’s responsibility to avoid facilitating third-party activity with a negative impact on lands or natural resources traditionally used by IPLCs, again citing the American Convention’s provisions on the right to property.⁷¹ Although the jurisprudence in this area concerns formal, legal concessions, the precedent may suggest a similar duty vis-à-vis informal activity—such as informal gold mining—if the government is aware of the situation but fails to intervene.
- In the context of mercury contamination from gold mining, the IACHR went out of its way, in a 1997 report critical of oil exploitation in Amazonian Ecuador, to express that its concerns applied equally to harms from gold mining. Specifically, the IACHR wrote as follows: “While the Commission has analyzed the human rights situation in the Oriente through the example of oil exploitation activities, it must be noted that other types of

⁶⁸ I/A Court H.R., *Case of the Saramaka People v. Suriname*, Preliminary Objections, Merits, Reparations and Costs, Judgment of November 28, 2007, Series C No. 172, par. 122; I/A Court H.R., *Case of the Yakye Axa Indigenous Community v. Paraguay*, Merits, Reparations and Costs, Judgment of June 17, 2005, Series C No. 125, pars. 124, 137; I/A Court H.R., *Case of the Sawhoyamaya Indigenous Community v. Paraguay*, Merits, Reparations and Costs, Judgment of March 29, 2006, Series C No. 146, pars. 118, 121

⁶⁹ IACHR, *Democracy and Human Rights in Venezuela*, Doc. OEA/Ser.L/V/II. Doc. 54, 30 December 2009, pars. 1066, 1071, 1137 – Recommendations 1 to 4.

⁷⁰ IACHR, *Report on the Situation of Human Rights in Ecuador*, Doc. OEA/Ser.L/V/II.96, Doc. 10 rev.1, April 24, 1997.

⁷¹ I/A Court H.R., *Case of the Saramaka People v. Suriname. Preliminary Objections, Merits, Reparations and Costs*. Judgment of November 28, 2007. Series C No. 172, par. 148.

development activities raise similar factual and legal concerns. One pertinent example concerns the effects of gold mining in the interior. The processes employed involve various types of chemicals, including cyanide and mercury, which may be emitted into streams and rivers. The toxicity of these substances to humans has been thoroughly documented.”⁷²

In sum, both the jurisprudence of the Inter-American Court and the highly persuasive publications of the IACHR add to the considerable body of law establishing that (1) IPLCs have important rights that are often compromised by gold mining using mercury (again acknowledging the nuance surrounding the term “IPLC” and the fact that the jurisprudence often speaks to “Indigenous peoples”), and (2) States have duties to uphold and protect these rights, such that they may not simply throw up their hands in the face of third-party activity, no matter how challenging the situation may be.

F. The UN Convention against Transnational Organized Crime and Mutual Legal Assistance

Insofar as transnational criminal organizations have become involved with mercury-based gold mining—either as a new revenue source, a vehicle to launder money from drug-trafficking, or both—the United Nations Convention against Transnational Organized Crime (UNTOC) bears mentioning. All five focus countries are Parties to UNTOC, and the treaty is well understood in the region. Although UNTOC is not designed to assist with many of the problems associated with illegal and informal gold mining—issues like traceability and formalization lie far beyond its ambit—the treaty nevertheless provides an important framework for cross-border collaboration in many situations.

When applicable, UNTOC adds an array of instruments to the crime-fighting toolbox, including mutual legal assistance (MLA), a framework for extradition, trainings, and technical assistance. Significantly, however, these instruments are only available in certain situations. Two broad categories of crime trigger UNTOC’s applicability.⁷³ First, UNTOC’s international cooperation mechanisms are triggered when the underlying crime consists of participation in an organized criminal group, laundering proceeds of a crime, corruption, or obstruction of justice (and when the offence is also “transnational in nature” and involves an “organized criminal group,” both of which are defined terms).⁷⁴ Second, in a provision of potentially far broader reach, UNTOC’s cooperation mechanisms are triggered by any other “serious crime” that is also “transnational in nature” and involves an “organized criminal group.”⁷⁵ Under UNTOC, a “serious crime” is defined as “conduct

⁷² <https://cidh.oas.org/countryrep/ecuador-eng/chaper-8.htm>

⁷³ UNTOC, Art. 3.

⁷⁴ *Id.* at Art. 3(1)(a), 5, 6, 8, 23. Under UNTOC, an offense is “transnational in nature” if (a) it is committed in more than one State; (b) it is committed in one State but a substantial part of its preparation, planning, direction, or control takes place in another State; (c) it is committed in one State but involves an organized criminal group that engages in criminal activities in more than one State; or (d) it is committed in one State but has substantial effects in another State. *Id.* at Art. 3(2). Further, UNTOC defines “organized criminal group” as “a structured group of three or more persons, existing for a period of time and acting in concert with the aim of committing one or more serious crimes or offences established in accordance with this Convention, in order to obtain, directly or indirectly, a financial or other material benefit.” *Id.* at Art.2(a).

⁷⁵ *Id.* at Art. 3(1)(b).

constituting an offence punishable by a maximum deprivation of liberty of at least four years or a more serious penalty.”⁷⁶ To translate, a “serious crime” for purposes of the treaty is one that could, according to the relevant Party’s national law, result in four years in prison.

It is the latter category—“serious crimes” that are transnational in nature and involve organized criminal groups—that is most relevant to illicit conduct relating to gold mining using mercury. With very few exceptions, the focus countries’ legislation meets the “serious crime” threshold, both for illegal mining and for related offenses like trafficking mercury. (To cite one exception, Ecuadorian law authorizes only one to three years’ imprisonment as a punishment for illicit *artisanal* mining.) Thus, so long as the other UNTOC elements are met—involvement of an organized criminal group and the existence of at least some transnational aspects in the case at issue (noting that these elements are relatively easy to satisfy, given the treaty’s broad definitions)—the focus countries may take advantage of UNTOC.

To give just a few examples of where UNTOC would apply, imagine any of the following scenarios: (1) a small network of individuals cooperate to regularly traffic mercury from Bolivia to Peru for use in gold mining in Peru’s Madre de Dios region; (2) a Colombian drug trafficking organization, with activities in several countries, decides to organize and finance an illegal gold mining operation in Colombia; (3) several individuals in Brazil establish a fraud and bribery racket to export illegally mined gold from Brazil to foreign markets. As basic as these examples may be, they illustrate the point: UNTOC is actually a very good fit with many iterations of criminal activity involving gold mining and mercury.

Bilateral Agreements Relevant to Gold Mining Using Mercury

In addition to global treaties (like UNTOC) and regional treaties (like the Amazon Cooperation Treaty and the Acuerdo de Escazú), the focus countries can and do strike agreements through bilateral instruments. For example, Peru maintains tailored bilateral MLA agreements with each of the focus countries. Beyond the world of binding treaties, the focus countries can also use soft-law instruments to memorialize shared understandings and forge collaborative approaches to cross-border problems, including problems related to gold mining and mercury. For instance, in 2018, the Presidents of Bolivia and Peru signed the Cobija Declaration. Among other topics, the Cobija Declaration memorialized the Presidents’ “commitment to strengthen coordination between competent national institutions, promoting actions to prevent and address threats related to transnational organized crime, which undermine the security of both countries, particularly illicit drug trafficking, money laundering, *illegal mining*, illegal logging, illicit trafficking of wildlife, computer crimes, illicit trafficking in firearms, ammunition, explosives and related materials, among other offenses.” Building on the Cobija Declaration, the two countries then signed the more specific Protocol for Coordinated and/or Simultaneous Action Regarding Interdiction Actions Against Illegal/Polluting Mining in the Peru- Bolivia Border Zone.

But what is the practical upshot of triggering UNTOC? How can it help in the fight against illegal gold mining using mercury and related offenses? One clear benefit is unlocking mutual legal assistance (MLA). MLA is a formal process for one government (the requesting State) to receive certain forms of legal assistance from another government (the requested State).⁷⁷ Such assistance can include, among other things, the execution of searches and seizures in the jurisdiction of the requested State, the compulsion of testimony from witnesses in the requested

⁷⁶ *Id.* at Art. 2(b).

⁷⁷ UNTOC, at Art. 18; UNCAC, at Art. 46.

State, and the tracing of proceeds of crime that may be located in the requested State.⁷⁸ MLA is also contemplated (and in fact more easily triggered) in the Inter-American Convention on Mutual Assistance in Criminal Matters, to which all focus countries are parties.⁷⁹

Although research for this report was unable to discern the extent to which all of the focus countries have used MLA to investigate transnational crime involving illegal gold mining or mercury trade, at least one report indicates that Peru regularly sends and receives MLA requests in cases involving environmental crimes.⁸⁰ As a general observation, it would behoove all of the focus countries to consider using MLA—whether under UNTOC, the Inter-American Convention, or otherwise—to more effectively investigate and disrupt transnational organized criminal groups associated with mercury-based gold mining.

IV. Country Analysis: Challenges and Laws

Across the world’s tropical forests, gold mining using mercury threatens human health, the environment, government revenue and taxing, national security, cultural integrity of IPLCs, and rule of law. Yet, while these illicit activities occur to some degree in many regions, they are particularly acute in the Amazon Basin, where abundant alluvial gold resources combine with poverty, crime, and myriad governance challenges to create a landscape uniquely suited to mercury-based illegal and informal gold mining.

This section begins by briefly canvassing the challenges that the focus countries—Bolivia, Brazil, Colombia, Ecuador, and Peru—face in their quest to reduce gold mining using mercury. To provide necessary context, this section also discusses separate but related problems—like drug trafficking and illegal logging—insofar as those issues can complicate efforts to control illegal and informal gold mining using mercury.

Although many of the challenges are similar across the focus countries, they often manifest in unique ways. (See Table 3 for a summary of cross-cutting challenges.) In other instances, the problems in one focus country simply find no counterpart in another focus country (e.g., the fallout from Colombia’s internal armed conflict and its effects on rural security and livelihoods). This section discusses each focus country in turn, noting differences and areas of overlap along the way.

Table 3: A Summary of Cross-Cutting Challenges in the Focus Countries*	
Challenges related to the problem*	Challenges related to the response*
Easy access to mercury (see Part IV.A for more information on trafficking routes)	Lack of resources (human and material) to effectively monitor and respond to illegal gold mining using mercury
Easy access to gasoline/diesel and mining equipment (suction dredgers, air compressors, etc.)	Ineffective denouncement mechanisms, particularly as concerns IPLC communities/community members

⁷⁸ UNTOC, at Art. 18; UNCAC, at Art. 46.

⁷⁹ Inter-American Convention on Mutual Legal Assistance in Criminal Matters (May 23, 1992).

⁸⁰ Nicholas Fromherz & Erica Lyman, *Asistencia Legal Mutua Internacional en Casos de Trafico de Vida Silvestre en el Perú: Guía Práctica* (ABA ROLI 2021).

Easy access to/ability to operate illegally within remote alluvial areas, including: - Protected areas with limited monitoring and enforcement resources - Indigenous territories that may not be formally recognized or, if they have formal recognition, may lack adequate monitoring and enforcement resources	Flawed working relationships between impacted communities and regulatory/enforcement authorities
People desperate for income; limited livelihood alternatives yielding an abundance of cheap labor	Incomplete or incorrect knowledge of the law, including IPLC rights
Corruption (buying off police/other authorities, corruption related to formalization processes, etc.)	Penalties insufficient to secure deterrence
High gold prices	Remedies insufficient or not designed to restore affected environments
Ubiquitous opportunities to sell gold, both locally (e.g., “ <i>compro oro</i> ” houses) and internationally	Jurisdictional misunderstandings, including between subject-matter agencies (e.g., protected areas service vs. ministry of mines vs. ministry of environment) and between regulatory agencies and law enforcement
Organized crime groups, often originally formed around drug trafficking, have pushed into mining, both as a new revenue source and to launder drug proceeds	Flawed binational coordination and enforcement in cross-border situations
* Note on terminology: By “cross-cutting challenges,” this table refers to those challenges that, to a greater or lesser extent, are present in all five focus countries. To be sure, this is not meant to suggest the magnitude of the problems is equal across all countries. By “challenges related to the problem,” this table refers to circumstances or factors that tend to fuel gold mining using mercury. “Challenges related to the response,” in contrast, denote circumstances or factors that hinder effective government control and responsive actions. Of course, the division is imperfect, as many factors play a role both in fueling gold mining using mercury and hampering the state response (e.g., corruption).	

After discussing the challenges, this section pivots to a review of each country’s laws. Ultimately, the goals of the Minamata Convention and other international law instruments, whether soft or hard, can only be achieved through effective national legislation and policy. Each country studied in this report has developed a raft of laws, regulations, decrees, and policy documents relating to mercury use in gold mining and associated issues. Many of these instruments were developed prior to the Minamata Convention’s entry into force; others have come into being since and were no doubt influenced by Minamata’s requirements and objectives.

The discussion here serves as a something of a tour guide for the reader who may not wish to take in every detail of each focus country’s legal landscape but would, nevertheless, like to see the highlights and obtain a sense of the overall picture. To that end, the legal review strives to accomplish two fundamental goals for each focus country. First, in a purely descriptive effort, the review attempts to explain how national laws and regulations treat gold mining using mercury and

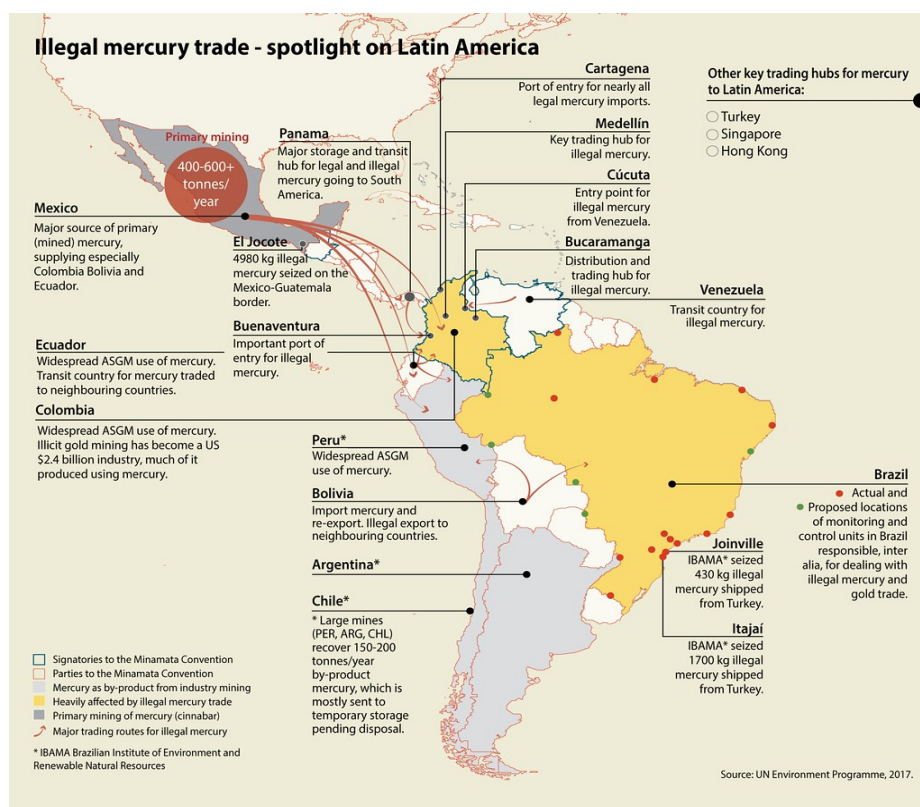
associated activities (such as importation of mercury, domestic commerce in mercury, contamination from mercury, and so forth). Second, and more analytically, the review aims to tease out a basis for some level of evaluation, however tentative, and the development of corresponding findings and recommendations for improvement. These findings and recommendations are then set forth in the following section.

A. Mercury Trafficking Routes and the Role of Mexico

Despite hosting significant use of mercury in ASGM, each of the five focal countries has indicated in Minamata reports that it does not have primary mercury mines. Thus, setting aside smaller amounts of “secondary” or “by-product” mercury,⁸¹ mercury must be imported into each of the countries for ASGM and otherwise.

According to several publications, the primary initial source of mercury for the focal countries is Mexico. While other source and hub nations exist (including Türkiye, Singapore, and Hong Kong SAR) Mexico is consistently identified as the main supplier. The following graphic, prepared with 2017 UNEP data, shows the major flows of mercury from Mexico to South America. Although the underlying data is several years old, the information appears to remain essentially accurate, at least at the macro level.

Image 1: Illegal Mercury Trade Map⁸²



⁸¹ https://minamataconvention.org/sites/default/files/2021-06/global_mercury.pdf at Table 4 (showing 2015 aggregate figures for by-product mercury in Peru, Chile, and Argentina).

⁸² Sourced from <https://www.grida.no/resources/13540>.

A review of academic literature, NGO reports, and news articles (especially in the wake of enforcement actions) supports the conclusion that Mexico is the region's main supplier of black-market mercury used in ASGM. For example, a July 2025 report from the Environmental Investigation Agency (EIA), describing EIA's successful penetration of a mercury smuggling operation, concluded that "the traffickers exposed in the report" were "responsible for the largest illegal flows of mercury ever documented, conservatively amounting to 200 tons of mercury smuggled from the mercury mines in Mexico (state of Queretaro) to the gold mines in Bolivia, Colombia, and Peru between April 2019 and June 2025."⁸³ Leveraging legal mercury production from mines that Mexico is reportedly phasing out under the auspices of the Minamata Convention (more on this immediately below), the traffickers studied by EIA developed a sophisticated method to siphon off and transport mercury to South America. Rather than smuggling mercury in its liquid form—the traditional but far more detectable method used by smugglers—the trafficking network sends mercury-rich gravel. This allows the network to send shipments through formal customs ports, convincingly mislabeling the gravel as construction material or "decorative stones." Then, once successfully imported, clandestine processing sites in Peru and Colombia extract liquid mercury for final distribution for use in illegal gold mining. "Smugglers told EIA investigators that each 20-ft container shipment of mercury-rich gravel yields between 3.5 and 4 tons of liquid mercury."⁸⁴

The *modus operandi* described by EIA aligns with the trafficking methodology uncovered by Peruvian authorities in a major mercury bust in late June 2025.⁸⁵ Acting on "international intelligence" (seemingly from EIA), customs agents at the port of Callao intercepted a "shipment of about four metric tons of mercury . . . passed off as a container of crushed rock[.]"⁸⁶ Analysis by Peru's customs agency "revealed that the material had been laced with mercury" and was apparently destined for Bolivia.⁸⁷

Apart from high gold prices and concomitantly high demand for mercury, the Mexico-to-Amazon mercury pipeline is seemingly facilitated by less-than-optimal management of mercury mines and mercury exports in Mexico. From 2010 to 2014, Mexico's declared exports of mercury rose from 26 tons to 301 tons, reflecting rising international demand. Although Mexico's declared exports of mercury have dropped dramatically since the Minamata Convention's entry into force in 2017, exports have not ceased. The official data shows exports of 24 tons in 2021—the last year for which official data is available—and EIA has estimated that the actual figures remain much higher.

A major part of the problem, according to EIA, is Mexico's continued operation of mercury mines at a level inconsistent with the goal of significantly reducing mercury use in ASGM and otherwise. However, as EIA observes, primary mercury mining in Mexico is not, on its face, in tension with

⁸³ https://eia.org/wp-content/uploads/2025/07/EIA_US_Mercury_Smuggling_report_0725_FINAL.pdf

⁸⁴ https://eia.org/wp-content/uploads/2025/07/EIA_US_Mercury_Smuggling_report_0725_FINAL.pdf

⁸⁵ <https://apnews.com/article/mercury-gold-mine-illegal-peru-amazon-mexico-bolivia-smuggling-e0e6055eebd2f39f8958f9dbb12ef5b1>

⁸⁶ <https://www.reuters.com/sustainability/climate-energy/peru-seizes-4-tons-black-market-mercury-bound-illegal-gold-mines-2025-07-24/>

⁸⁷ <https://www.reuters.com/sustainability/climate-energy/peru-seizes-4-tons-black-market-mercury-bound-illegal-gold-mines-2025-07-24/>

the Minamata Convention. In fact, the Convention provides that a Party may “allow primary mercury mining that was being conducted within its territory at the date of entry into force of the Convention for a period of up to fifteen years after that date.”⁸⁸ Doing the math, this means Mexico may, consistent with the treaty, allow primary mercury mining until mid-2032. Significantly, though, the Convention severely limits the end uses to which mercury from such mining is permitted. Specifically, the Convention states that during the fifteen-year grace period, “mercury from such mining shall only be used in manufacturing of mercury-added products in accordance with Article 4.”⁸⁹ ASGM is not included among the allowed uses. Thus, as EIA notes, if much of the mercury extracted from primary mercury mines in Mexico ends up in the hands of ASGM operations, that constitutes unauthorized trade and use of mercury.⁹⁰

To be sure, a violation of the Minamata Convention attributable to Mexico (or any other Pattern) does not follow from the mere fact that mercury extracted from primary mercury mines in Mexico ultimately fuels in ASGM in the Amazon Basin. Because primary mercury mining is allowed for certain end uses, the mining as such is, at some level, sanctioned by the Convention. However, if Mexican authorities were to know that this provision (and their primary mercury mines) were being abused to the benefit of mercury traffickers and illegal gold miners, serious questions around state responsibility would begin to arise. Addressing those questions is beyond the scope of this report. For now, it is enough to say that primary mercury mining in Mexico and subsequent exports (whether through ostensibly legal channels or outright smuggling operations) seems to be a major part of the pathology surrounding mercury-based gold mining in the Amazon.⁹¹

B. Peru

The scale and depth of Peru’s struggle with mercury and gold mining is hard to overstate. With the price of gold soaring and the mineral existing in abundant quantities throughout the country, illegal and informal gold mining—often but not always conducted with mercury—has emerged as perhaps Peru’s most pressing environmental problem.⁹² At least three lines of data support this assertion: the sheer quantity of gold produced and exported from Peru; the percentage of informal (and often illegal) labor behind this production; and the less quantifiable but no less undisputed environmental, health, and social crisis that illegal and informal gold mining, particularly mercury-based gold mining, has left in its wake.

In a region synonymous with mineral wealth, Peru stands at the summit, producing more gold than any other country in South America.⁹³ According to the World Gold Council, Peru produced 136.9 tonnes of gold in 2024.⁹⁴ While most data regarding gold production in Peru should be

⁸⁸ https://eia.org/wp-content/uploads/2025/07/EIA_US_Mercury_Smuggling_report_0725_FINAL.pdf

⁸⁹ https://eia.org/wp-content/uploads/2025/07/EIA_US_Mercury_Smuggling_report_0725_FINAL.pdf

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² See Dan Collyns, ‘Scratch the earth, there’s gold!’: Small miners, big firms and armed gangs fight over Peru’s mineral wealth, *The Guardian* (May 29, 2025) (“As its international price sets successive record highs above \$3,000 (£2,220) an ounce, criminal gangs, illegal miners and established mining companies battle over the metal.”), <https://www.theguardian.com/global-development/2025/may/29/gold-peru-small-miners-big-mining-firms-armed-gangs-mineral-wealth>;

⁹³ <https://www.mdpi.com/2071-1050/14/12/7390>

⁹⁴ <https://www.gold.org/goldhub/data/gold-production-by-country>

taken with a grain of salt—more on this in a moment—there is no question that gold is a very big business, both in the legitimate economy and in the gray and black markets.

The share of gold production corresponding to illegal and/or informal gold mining is difficult to calculate with precision. But experts agree the figures are high. According to one report from the Peruvian Economic Institute, exports of illegally extracted gold from Peru were projected to generate \$6.84 billion in 2024, over one-third more than in the previous year.⁹⁵ The Peruvian Economic Institute has further estimated that over 40% of all gold illegally extracted in South America is Peruvian in origin.⁹⁶ Even if these estimates were off by an order of magnitude—and there is no reason to suspect such gross inaccuracy—they would remain alarming.

Acknowledging that the theoretical and legal distinction between informal and illegal gold mining in Peru is nuanced—see below for more details—the number of people involved in this activity is considerable. One estimate indicates that 80% of ASGM operators in the country work informally, accounting for some 300,000 jobs.⁹⁷ And this does not include individuals engaged in fully illegal mining (again, this critical distinction is explained below), nor dependents and other workers indirectly involved in the informal and illegal gold mining economies.

With much of this mining occurring as alluvial extraction using mercury as an amalgamating agent, the toll to local ecosystems and human health is nothing short of staggering. Environmental and human health conditions in regions like Madre de Dios have reached catastrophic levels.⁹⁸

To be sure, Peru has taken several important steps to curb illegal gold mining and the use of mercury in illegal operations. In addition to legal reforms (discussed below), the government has, across presidential administrations, encouraged formalization and conducted several forceful campaigns (sometimes resembling quasi-military operations) directed principally at illegal mining with mercury in Madre de Dios.

For instance, in its “Operation Mercury,” carried out in 2019 and 2020, Peru sought to eliminate illegal ASGM in La Pampa in the Madre de Dios region.⁹⁹ La Pampa straddles the interoceanic highway and mining is illegal south of the highway in a buffer zone of the Tambopata National Reserve.¹⁰⁰ On the one hand, Operation Mercury was a success in eliminating illegal mining to the south of the highway; miners were evicted and equipment was destroyed. Essentially, illegal mining came to a “near halt” during Operation Mercury.¹⁰¹ However, as miners were forced out of the buffer zone, mining activity spiked on the other side of the highway where gold mining can be

⁹⁵ <https://ipe.org.pe/el-peru-exporta-el-44-del-oro-ilegal-de-sudamerica/>

⁹⁶ <https://ipe.org.pe/el-peru-exporta-el-44-del-oro-ilegal-de-sudamerica/>

⁹⁷ <https://www.mdpi.com/2071-1050/14/12/7390>

⁹⁸ See, e.g., <https://www.iucn.nl/en/story/gold-mining-in-madre-de-dios-mercury-in-every-body/>; <https://www.nature.com/articles/s41467-022-27997-3> ; <https://nicholas.duke.edu/news/mine-ponds-amplify-mercury-risks-perus-amazon>

⁹⁹ “‘Operation Mercury’ Curbed Illegal Gold Mining in Peru,” Dartmouth News, Sep. 29, 2023, <https://home.dartmouth.edu/news/2023/09/operation-mercury-curbed-illegal-gold-mining-peru>.

¹⁰⁰ “‘Operation Mercury’ Curbed Illegal Gold Mining in Peru,” Dartmouth News, Sep. 29, 2023, <https://home.dartmouth.edu/news/2023/09/operation-mercury-curbed-illegal-gold-mining-peru>.

¹⁰¹ “‘Operation Mercury’ Curbed Illegal Gold Mining in Peru,” Dartmouth News, Sep. 29, 2023, <https://home.dartmouth.edu/news/2023/09/operation-mercury-curbed-illegal-gold-mining-peru>.

performed legally.¹⁰² As such, the overall effectiveness of this operation is questionable where reduction of mercury use is concerned given the increase in mining north of the highway (setting aside the fact that illegal mining stopped in the buffer zone). In addition, recent reporting suggests that ASGM miners returned to the restricted zone after the end of the operation.¹⁰³

That said, Peru has not sat on its hands in the meantime, replacing Operation Mercury with a “Restoration Plan” in 2021, “which included interventions in other critical mining areas of the Madre de Dios region in the southern Peruvian Amazon.”¹⁰⁴

Mercury-based mining has also had an impact on human health and the environment in the Madre de Dios region. Regarding the former, a USAID study estimated that approximately 78% of adults in Puerto Maldonado, the region’s capital, have mercury concentration above safe levels.¹⁰⁵ With respect to the environment, deforestation has occurred over a range of at least 100,000 hectares between 1990 and 2020.¹⁰⁶ Between 2021 and 2024 alone, one study recorded over 30,000 hectares of deforestation associated with both legal and illegal ASGM mining.¹⁰⁷ In addition, mercury contamination has been found in intact forests in the Madre de Dios region, including in old-growth forests.¹⁰⁸

Gold mining in the Madre de Dios region has been associated with physical violence, including homicides and human trafficking.¹⁰⁹ “In 2020, Madre de Dios was recorded as the region with the highest number of murders in the country. In 2021, 200 people were killed in the region, of which 40% were Indigenous.”¹¹⁰ Many of the illegal mines in the region are operated by criminal gangs; apart from killing and human trafficking, these gangs are perceived as engaging in land grabs,

102 “‘Operation Mercury’ Curbed Illegal Gold Mining in Peru,” Dartmouth News, Sep. 29, 2023, <https://home.dartmouth.edu/news/2023/09/operation-mercury-curbed-illegal-gold-mining-peru>.

103 Collyns, Dan, “Peru’s crackdown on illegal gold mining a success, but only briefly, study shows,” Mongabay, Dec. 5, 2023, <https://news.mongabay.com/2023/12/perus-crackdown-on-illegal-gold-mining-a-success-but-only-briefly-study-shows/>.

104 “MAAP #208: Gold mining in the southern Peruvian Amazon, summary 2021-2024,” Monitoring of the Andes Amazon Program, May 8, 2024, <https://www.maaprogram.org/maap-208-gold-mining-in-the-southern-peruvian-amazon-summary-2021-2024/>.

105 Collyns, Dan, “Peru’s crackdown on illegal gold mining a success, but only briefly, study shows,” Mongabay, Dec. 5, 2023, <https://news.mongabay.com/2023/12/perus-crackdown-on-illegal-gold-mining-a-success-but-only-briefly-study-shows/>.

106 Collyns, Dan, “Peru’s crackdown on illegal gold mining a success, but only briefly, study shows,” Mongabay, Dec. 5, 2023, <https://news.mongabay.com/2023/12/perus-crackdown-on-illegal-gold-mining-a-success-but-only-briefly-study-shows/>.

107 “MAAP #208: Gold mining in the southern Peruvian Amazon, summary 2021-2024,” Monitoring of the Andes Amazon Program, May 8, 2024, <https://www.maaprogram.org/maap-208-gold-mining-in-the-southern-peruvian-amazon-summary-2021-2024/>.

108 Gerson, Jacqueline R. et al., “Amazon forests capture high levels of atmospheric mercury pollution from artisanal gold mining,” Nature Communications, Jan. 28, 2022, <https://www.nature.com/articles/s41467-022-27997-3>.

109 “Gold mining in Madre de Dios: mercury in every body,” IUCN, Dec. 24, 2024, <https://www.iucn.nl/en/story/gold-mining-in-madre-de-dios-mercury-in-every-body/>.

110 “Gold mining in Madre de Dios: mercury in every body,” IUCN, Dec. 24, 2024, <https://www.iucn.nl/en/story/gold-mining-in-madre-de-dios-mercury-in-every-body/>.

drug trafficking, and prostitution.¹¹¹ In addition, regarding women's rights and gender equality, the presence of mining activity has reportedly been associated with increased levels of sexual harassment and lack of safety.¹¹²

In more positive news, a group of women miners have moved away from the use of mercury in ASGM gold-mining, instead opting for "gravimetric, or shaking, tables."¹¹³ In addition, other mining operations have adopted the shaking table method in order to obtain the "Fairmined Ecological Gold" certification.¹¹⁴ While this is a welcome phenomenon, scaling up is a challenge, in part because local purchasers of gold are unwilling to pay more for clean gold.¹¹⁵

With regard to formalization in the ASGM sector Peru has made important strides, having formalized over 9,600 artisanal miners as of the end of 2021.¹¹⁶ Nevertheless, according to one study, formalization has yielded "mixed results."¹¹⁷ While formal ASGM operations have "improved health and safety practices and labor conditions," formalized miners feel increased scrutiny from governmental authorities and have difficulties getting technical support and capital investment.¹¹⁸ The study in question concluded that, in Peru, "the problems and weaknesses within the approach may inadvertently push miners back into informality."¹¹⁹ Thus, the study urged the necessity of a "solid post-formalization strategy."¹²⁰

111 "Gold standard: Peru miners phase out mercury in bid to clean up industry," The Guardian, Apr. 21, 2023, <https://www.theguardian.com/global-development/2023/apr/21/gold-standard-peru-miners-phase-out-mercury-in-bid-to-clean-up-industry>.

112 "Gold mining in Madre de Dios: mercury in every body," IUCN, Dec. 24, 2024, <https://www.iucn.nl/en/story/gold-mining-in-madre-de-dios-mercury-in-every-body/>.

113 Collyns, Dan, "In Peru's Amazon women gold miners ditch toxic mercury," Context, Apr. 9, 2025, <https://www.context.news/nature/in-perus-amazon-women-gold-miners-ditch-toxic-mercury>.

114 "Gold standard: Peru miners phase out mercury in bid to clean up industry," The Guardian, Apr. 21, 2023, <https://www.theguardian.com/global-development/2023/apr/21/gold-standard-peru-miners-phase-out-mercury-in-bid-to-clean-up-industry>.

115 Collyns, Dan, "In Peru's Amazon women gold miners ditch toxic mercury," Context, Apr. 9, 2025, <https://www.context.news/nature/in-perus-amazon-women-gold-miners-ditch-toxic-mercury>.

116 Martinez, Gerardo et al., "Formalization is just the beginning: Analyzing post-formalization successes and challenges in Peru's small-scale gold mining sector," ScienceDirect, Dec. 2021, <https://www.sciencedirect.com/science/article/abs/pii/S0301420721003998>.

117 Martinez, Gerardo et al., "Formalization is just the beginning: Analyzing post-formalization successes and challenges in Peru's small-scale gold mining sector," ScienceDirect, Dec. 2021, <https://www.sciencedirect.com/science/article/abs/pii/S0301420721003998>.

118 Martinez, Gerardo et al., "Formalization is just the beginning: Analyzing post-formalization successes and challenges in Peru's small-scale gold mining sector," ScienceDirect, Dec. 2021, <https://www.sciencedirect.com/science/article/abs/pii/S0301420721003998>.

119 Martinez, Gerardo et al., "Formalization is just the beginning: Analyzing post-formalization successes and challenges in Peru's small-scale gold mining sector," ScienceDirect, Dec. 2021, <https://www.sciencedirect.com/science/article/abs/pii/S0301420721003998>.

120 Martinez, Gerardo et al., "Formalization is just the beginning: Analyzing post-formalization successes and challenges in Peru's small-scale gold mining sector," ScienceDirect, Dec. 2021, <https://www.sciencedirect.com/science/article/abs/pii/S0301420721003998>.

In addition, Peru has repeatedly extended the deadlines controlling the formalization process, sparking debate.¹²¹ As explained in further detail below, Peru's formalization program has always revolved around two key deadlines: one for initial registration (indicating the miner's interest in and commitment to formalization) and one for completion of the process (i.e., achieving compliance with all legal prerequisites, including receipt of an environmental license).¹²²

The logic behind the first deadline is essentially as follows: Peru wishes to limit the universe of eligible informal miners. If the formalization process were completely open-ended, this would allow persons who are not currently engaged in informal mining to begin mining informally, knowing that a pathway for formalization would always be available.¹²³ Thus, Peru long ago made the policy decision to limit registration with a deadline (since extended, as explained below). To be clear, the deadline for registration does not mean that persons not currently engaged in mining are prohibited from entering the sector. Instead, it simply means that such persons must go through the "ordinary" process, wherein they must obtain all necessary licenses *prior to* beginning mining.¹²⁴ Formalization is an exception to the rule, common in most countries, that one needs a license before commencing mining activities.

Formalization Deadlines: A Delicate Balance

Formalization regimes must balance (1) the need to provide enough time, resources, and incentives for informal miners to participate with (2) the risk of never achieving the real benefits of formalization (at least insofar as environmental protection is concerned) by continuously extending formalization deadlines and/or giving too many benefits to miners who have begun but not completed the process. In Peru, there is a strong argument that public officials have failed to strike the right balance, as ASGM miners seem to feel that they will always have a later opportunity to formalize and miners who have registered but not finished formalization are immune from criminal prosecution for illegal mining.

The logic behind the second deadline—the deadline for completing formalization—is perhaps easier to understand. The goal of any formalization regime, and certainly Peru's, is not simply to register as many informal miners as possible, but instead to induce compliance with all substantive rules (from labor norms to environmental regulations) governing gold mining. Recognizing that such compliance takes time (e.g., obtaining an environmental license is a lengthy process), the deadline to complete formalization has always been rather generous (more details on this are set forth below).

In both instances, the major incentive to engage in the formalization process, at least in Peru, has been an immunity provision. In broad terms, informal miners who register for formalization have been able to enjoy immunity from prosecution while they complete the formalization process. Without such immunity (i.e., without registration), informal miners are treated as "illegal miners," subject to prosecution, fines, and other punitive measures.

¹²¹ Valencia, Mitsue, "Peru congress extends controversial temporary mining permits amid allegations of facilitating illegal activities," JURISTnews, Dec. 1, 2024, <https://www.jurist.org/news/2024/12/peru-congress-extends-controversial-temporary-mining-permits-amid-allegations-of-facilitating-illegal-activities/>.

¹²² Interview with Cesar Ipenza Peralta.

¹²³ Interview with Cesar Ipenza Peralta.

¹²⁴ Interview with Cesar Ipenza Peralta.

As mentioned, however, Peru has repeatedly extended the deadlines for both initial registration (although that deadline has finally closed) and completion of the formalization process. These extensions have allowed informal miners to continue operating under temporary permits. While Peru's formalization program is intended to help miners transition into a legal framework, including the requirement that they meet environmental and technical standards, some critics argue that the "system has been misused, allowing illegal mining to persist and even expand, as enforcement remains weak."¹²⁵ The fact is that "only a small portion of Peru's estimated half a million informal miners have successfully formalized since the program's launch in 2012. As a result, the extension [pattern] has raised concerns about whether it will allow more miners to exploit these loopholes, continuing to operate illegally while evading proper regulation."¹²⁶ The legal discussion that follows explores the bases for these critiques and attempts to tease out the most salient aspects of current debate over legal reform in this area.

1. Introduction to Law and Policy Response

Peruvian policy on the use of mercury in alluvial gold mining in the Amazon is, at one level, straightforward. In line with its Minamata obligations, Peru has for many years pursued the related goals of formalization of ASGM where possible;¹²⁷ reduction of mercury use in all cases;¹²⁸ and where formalization is not possible (where the mining is not merely "informal" but rather thoroughly "illegal," such as mining in protected areas), interdiction and prosecution.¹²⁹

Yet, if these high-level goals are easy enough to grasp, Peru's laws and regulations relating to these goals are another matter. While full of promise in many areas, the Peruvian legal landscape

¹²⁵ Valencia, Mitsue, "Peru congress extends controversial temporary mining permits amid allegations of facilitating illegal activities," JURISTnews, Dec. 1, 2024, <https://www.jurist.org/news/2024/12/peru-congress-extends-controversial-temporary-mining-permits-amid-allegations-of-facilitating-illegal-activities/>.

¹²⁶ Valencia, Mitsue, "Peru congress extends controversial temporary mining permits amid allegations of facilitating illegal activities," JURISTnews, Dec. 1, 2024, <https://www.jurist.org/news/2024/12/peru-congress-extends-controversial-temporary-mining-permits-amid-allegations-of-facilitating-illegal-activities/>.

¹²⁷ See Evaluación inicial del convenio de Minamata sobre el mercurio en el Perú, MINAM (2020), https://minamataconvention.org/sites/default/files/documents/minamata_initial_assessment/Peru-MIA-2020-ES.pdf (highlighting formalization as a strategy to reduce mercury use and emissions associated with the ASGM sector) ("Según el artículo 7 [del Convenio de Minamata], extracción de oro artesanal y en pequeña escala, el país debe reducir o eliminar el uso de mercurio y de compuestos de mercurio y las emisiones y liberaciones de mercurio en la MAPE. Al respecto, el país cuenta con el Decreto Legislativo N.º 1336 que establece *disposiciones para el proceso de formalización minera integral*; y, además, se viene elaborando un Plan de Acción Nacional para la MAPE en el Perú.") (emphasis added); see also Tras el dinero del oro ilícito: El caso de Perú, OAS (2021), <https://www.oas.org/es/sms/ddot/docs/Tras-el-dinero-del-oro-ilicito-El-caso-de-Peru.pdf>, at pp. 9-11 (summarizing legal and policy framework, including formalization).

¹²⁸ See Evaluación inicial del convenio de Minamata sobre el mercurio en el Perú, MINAM (2020), https://minamataconvention.org/sites/default/files/documents/minamata_initial_assessment/Peru-MIA-2020-ES.pdf, at pp. 18-19 (articulating "priority measures to be carried out for an effective implementation of the aforementioned convention in order to contribute to the reduction of risks, emissions and releases of mercury"); see also Tras el dinero del oro ilícito: El caso de Perú, OAS (2021), <https://www.oas.org/es/sms/ddot/docs/Tras-el-dinero-del-oro-ilicito-El-caso-de-Peru.pdf>, at pp. 9-11 (summarizing legal and policy framework, including reduction of mercury use and imports).

¹²⁹ See Tras el dinero del oro ilícito: El caso de Perú, OAS (2021), <https://www.oas.org/es/sms/ddot/docs/Tras-el-dinero-del-oro-ilicito-El-caso-de-Peru.pdf>, at pp. 9-11 (summarizing legal and policy framework, including application of criminal provisions to illegal mining).

bearing on mercury-based gold mining is complex and, in some instances, seems to work at cross-purposes with the country's overall policy goals.

2. Understanding the Difference Between Informal and Illegal Gold Mining in Peru

As with the other countries analyzed in this report, the size and significance of Peru's informal mining sector complicates efforts to monitor and regulate how such miners operate. Peru is the leading gold producer in South America (with some reports placing it tops in Latin America), and, according to one estimate, 80% of ASGM operators in Peru, translating to 300,000 jobs, work informally.¹³⁰

Compounding the problem, gold is also extracted in Peru by fully illegal miners.¹³¹ The distinction between “informal” and “illegal” gold mining may seem semantic, but it is critical to understand. National policy treats the former as quasi-legitimate—or at least eligible for incorporation in the formal, legal economy—while the government has effectively classified the latter as of no social value.

What, then, is the difference? At the most important level, “informal” mining is mining that *could* be legal through operational changes that, while significant, remain feasible without altering the basic character of the operation.¹³² Imagine, for example, an unlicensed gold mining operation on public lands zoned as multi-use (and therefore potentially open to mining). Because the operation is not taking place in an area categorically closed to mining (for example, within a protected area or in an off-limits riverbed), encouraging the operation to “formalize”—to go through the process of obtaining a license—is reasonably consistent with national mining policy. To be sure, formalization in this hypothetical scenario may require important changes to the operation: perhaps the operation is employing a few underaged employees, failing to pay license fees and taxes, and, most relevant to present purposes, using mercury in an unauthorized manner. Formalizing the operation will imply moving away from such illicit practices, but, at least from a macro perspective, the operation may continue in the same basic place and in much (but not precisely) the same manner.¹³³

In contrast, “illegal” mining in Peru means activity that is so far removed from the legal paradigm that it cannot be formalized. Instead, it must be repressed. In Peru, the primary hallmark of illegal

¹³⁰ <https://www.mdpi.com/2071-1050/14/12/7390>

¹³¹ As one might imagine, parsing the data on gold produced from illegal miners, on the one hand, and informal miners, on the other, can be a challenge. Accordingly, many reports seem to combine the two for statistical purposes. See, e.g., Dan Collins, Peru's crackdown on illegal gold mining a success, but only briefly, study shows, Mongabay (Dec. 5, 2023) (“Artisanal gold mining, 90% of it illegal or informal, accounts for at least half of the economy in the sparsely populated region of Madre de Dios, and sustains around 50,000 miners, according to a 2022 study by USAID.”)

¹³² To be precise, Article 2.1 of Legislative Decree No. 1336 (2017) defines “informal mining” as follows: “*Actividad minera realizada en zonas no prohibidas por aquella persona, natural o jurídica, que se encuentre inscrita en el Registro Integral de Formalización Minera cumpliendo con las normas de carácter administrativo y además, con las condiciones previstas en el artículo 91 del Texto Único Ordenado de la Ley General de Minería, aprobado por el Decreto Supremo N° 014-92-EM.*”

¹³³ See generally <https://rpp.pe/economia/economia/cuales-son-las-diferencias-entre-mineria-ilegal-informal-y-artesanal-informe-reinfo-ley-mape-noticia-1601292?ref=rpp#>

mining is *where* it takes place. If the mining occurs in a protected area or in a body of water, it is illegal and not eligible for formalization.¹³⁴

There is one more factor, however, that is key to distinguishing “informal” mining from “illegal” mining in Peru: whether the actor has begun the process of formalization by signing up with the *Registro Integral de Formalización Minera* (REINFO), created through Legislative Decree No. 1293 (of 2016).¹³⁵ There is much to say about the REINFO and how it has been managed, but for now it is important to understand that an operator or operation that has not registered with the REINFO remains, for purposes of administrative and criminal sanctions, “illegal” even if the operator or operation is *eligible* for registration. To put it more plainly, our hypothetical miners operating without a license in an area zoned for mining would be considered “illegal” if they had not registered with the REINFO but “informal” if they had. In contrast, a miner operating in a protected area would be ineligible for registering with REINFO—and would therefore be incurably illegal.¹³⁶ Note, however, that the deadline for registration with REINFO has in fact lapsed as of 2021, following several extensions.¹³⁷ Thus, as of this writing, even our hypothetical miners operating in an area zoned for mining would *not* be able to register with REINFO. This miner would need to go through the “ordinary” licensing process, meaning that they could not lawfully operate prior to receiving authorization.¹³⁸

What, then, is the primary legal upshot or benefit to formalization? Among other incentives, “informal” miners registered with REINFO are immune from most enforcement actions, including seizure of equipment and materials, as well as prosecution for illegal mining. Although this immunity makes sense as a means to attract participants, Peru’s operation of this aspect of the formalization process is hardly free from critique, as discussed in more detail below.

Table 4. Primary Differences Between “Informal” and “Illegal” Mining in Peru (adapted from C. Ipenza (unpublished, 2024)). ¹³⁹		
Variable	Informal mining	Illegal mining
Registration with REINFO?	Yes. The actor has thereby begun the formalization process.	No. In fact, the actor is not eligible for registration due to the other variables listed below (or, if the actor were otherwise eligible, they failed to register with REINFO).

¹³⁴ Decreto Legislativo No 1105 (2012), Art. 3. Note, however, that Article 3 defines illegal mining to also include mining carried out with equipment or machinery that “does not correspond” to the type of mining activity being performed. See also <https://rpp.pe/economia/economia/cuales-son-las-diferencias-entre-mineria-ilegal-informal-y-artesanal-informe-reinfo-ley-mape-noticia-1601292?ref=rpp#>

¹³⁵ Decreto Legislativo No 1293, Art. 3-4, <https://www.minam.gob.pe/wp-content/uploads/2017/06/DLeg-1293.pdf>

¹³⁶ See generally <https://rpp.pe/economia/economia/cuales-son-las-diferencias-entre-mineria-ilegal-informal-y-artesanal-informe-reinfo-ley-mape-noticia-1601292?ref=rpp#>

¹³⁷ See <https://es.mongabay.com/2024/02/congreso-peruano-busca-aprobar-ley-que-favorece-a-mineria-ilegal/> (“La inscripción al Reinfo se había cerrado en 2021 y hasta ahora las extensiones de plazo aprobadas por el Congreso solo contemplaba el proceso de formalización de quienes estaban inscritos.”).

¹³⁸ Interview with Cesar Ipenza Peralta.

¹³⁹ See also <https://rpp.pe/economia/economia/cuales-son-las-diferencias-entre-mineria-ilegal-informal-y-artesanal-informe-reinfo-ley-mape-noticia-1601292?ref=rpp#>

Location of mining activity	Outside of a protected area or other area closed to mining.	Within a protected area or other area closed to mining.
Operates in aquatic environment?	No.	Yes.
Immunity from interdiction/prosecution?	Yes.	No.

3. Problems with the Formalization Regime

As concerns formalization, Peru seems to be caught between two forces. On the one hand, the government has established significant legal and administrative architecture to encourage formalization. It is not simply a plan or goal that is discussed in policy documents without tangible implementation on the ground. On the other hand, the size and political influence of the informal gold mining sector (which, at least in some cases, has links with outright illegal gold mining and organized crime groups) has clearly retarded the formalization process.

This countervailing force manifests in exceptions and incentives that may be overbroad (e.g., the provision on immunity from prosecution) and, perhaps most frustratingly, serial extensions of the respective deadlines to (a) begin formalization through registration with REINFO, and (b) finish formalization by showing compliance with all relevant mining norms. These extensions, once established as a pattern, may create something of a self-reinforcing cycle: The government feels that not enough miners have begun the process of formalization, so the deadline for initial registration is extended in hopes of attracting a larger mass. Miners, for their part, may feel that there is no urgency to register because they perceive that another extension will be granted down the road. As a result, many refrain from registering, prompting another extension. However, this particular line of extensions, corresponding to initial registration, came to an end in 2021.¹⁴⁰ (New legislation, discussed below and widely known as the “Ley MAPE,” could well introduce a fresh registration period or other mechanism to cover miners currently ineligible for formalization for want of timely registration with REINFO. In fact, some of ministry officials have announced the impending “death” of REINFO once a new law comes online.)

As for the separate deadline to complete formalization following registration, serial extensions of that deadline remove the urgency for miners to take the important steps that formalization is truly meant to achieve. Unlike the serial extensions for initial registration, the extensions to complete formalization have continued apace through this writing.

The legal story of Peru’s formalization efforts is long and winding. Without attempting to describe every detail along the way, a review of the major legislative and administrative decisions over the past decade is instructive.

Following several (not insignificant) legislative efforts to reduce informal mining, the Peruvian government ushered in its contemporary formalization model in 2016 through Legislative Decree 1293.¹⁴¹ Among other things, this Decree declared mining formalization to be a matter of national

¹⁴⁰ <https://es.mongabay.com/2024/02/congreso-peruano-busca-aprobar-ley-que-favorece-a-mineria-ilegal/>

¹⁴¹ Decreto Legislativo No 1293, Art. 3-4, <https://www.minam.gob.pe/wp-content/uploads/2017/06/DLeg-1293.pdf>

interest and created the *Registro Integral de Formalización Minera* (REINFO).¹⁴² The Decree directed informal miners operating within zones permitted for mining to register with REINFO within 120 days.¹⁴³ (As mentioned, this deadline has been extended several times but has been closed to further inscriptions since 2021.¹⁴⁴) Apart from the requirement that they operate within permitted zones, the Decree further limited eligibility to artisanal and small-scale miners that had been operating continuously for at least five years.¹⁴⁵ The Decree established that persons who failed to register with REINFO would be subject to otherwise applicable sanctions for their mining activity. In other words, the basic trade-off was, *inter alia*, this: register with REINFO to avoid exposure to sanctions. The otherwise applicable sanctions include administrative fines and injunctions and criminal penalties (e.g., under the criminal code, discussed below, illegal mining is subject to an imprisonment term of between four to eight years, in addition to a fine).

Shortly thereafter, the President of Peru issued Legislative Decree No. 1336 (2017) to further define the requirements and process for formalization. In addition to clarifying the term “informal mining,” Decree No. 1336 introduced the rule that formalization requires approval of an Environmental Management Instrument (IGAC/IGAFOM) and the accreditation of rights over the concession and the land. In addition, it established sanctions for officials who hinder the process and tasked the Environmental Assessment and Control Agency (*Organismo de Evaluación y Fiscalización Ambiental* or “OEFA”) with monitoring miners’ compliance with the relevant Environmental Management Instrument. Significantly, the Decree did not require abandonment of mercury by miners seeking formalization, although it did underscore that the Ministry of Energy and Mines would seek to promote “private investment for technological improvement, contributing to the reduction of mercury use in the mineral beneficiation activity of small and artisanal mining.”¹⁴⁶

Fast forward to 2019. With the number of miners that had initiated the formalization process still underwhelming, the legislature passed Law No. 31007, extending the deadline for registration with REINFO through the end of 2021. That particular deadline (again, only for initial registration as opposed to completion of the process) has not been extended since.¹⁴⁷

Finally, at the end of 2024, Congress voted overwhelmingly to extend the deadline for duly registered miners to complete formalization once more, to run until June 30, 2025. The deadline was extended yet again in late June 2025.

¹⁴² Decreto Legislativo No 1293, Art. 4, <https://www.minam.gob.pe/wp-content/uploads/2017/06/DLeg-1293.pdf>

¹⁴³ Decreto Legislativo No 1293, Art. 4, <https://www.minam.gob.pe/wp-content/uploads/2017/06/DLeg-1293.pdf>

¹⁴⁴ See <https://es.mongabay.com/2024/02/congreso-peruano-busca-aprobar-ley-que-favorece-a-mineria-ilegal/> (“La inscripción al Reinfo se había cerrado en 2021 y hasta ahora las extensiones de plazo aprobadas por el Congreso solo contemplaba el proceso de formalización de quienes estaban inscritos.”).

¹⁴⁵ Decreto Legislativo No 1293, Art. 4, <https://www.minam.gob.pe/wp-content/uploads/2017/06/DLeg-1293.pdf>

¹⁴⁶ Legislative Decree No. 1336 (2017)

¹⁴⁷ See <https://es.mongabay.com/2024/02/congreso-peruano-busca-aprobar-ley-que-favorece-a-mineria-ilegal/> (“La inscripción al Reinfo se había cerrado en 2021 y hasta ahora las extensiones de plazo aprobadas por el Congreso solo contemplaba el proceso de formalización de quienes estaban inscritos.”).

As something of a side note, two months earlier, in April 2025, the Tribunal Court dismissed a lawsuit challenging the serial extensions on various constitutional grounds.¹⁴⁸ The Court ruled that the suit was invalid because it challenged an extension that, by the time the Court issued its ruling, had lapsed and been replaced by another.¹⁴⁹ Because the Court based its decision on relatively technical grounds, further litigation seems possible.¹⁵⁰

Despite (and perhaps because of) these extensions, the formalization regime has been roundly criticized as ineffective, at least from a statistical perspective. According to official data, as of late 2024, slightly more than 90,000 miners had registered with REINFO since its launch in 2017.¹⁵¹ Of those 90,265 inscriptions, however, only 2,107 had achieved formalization.¹⁵² In addition, some 65,000 registrants had been suspended for various reasons.¹⁵³ “The reasons behind the high rate of suspended registrations vary, from lack of a valid RUC [i.e., taxpayer number] to failure to present the Environmental Management Instrument for the Formalization of Artisanal Mining Activities (IGAFOM).”¹⁵⁴

While it is difficult to draw firm conclusions about all the possible causes for Peru’s struggles with formalization, at least two points seem clear. First, Peru has not made nearly as much headway as one would hope; even acknowledging the inherent difficulties in formalizing so many informal miners, the statistics are not encouraging. Second, it does seem that the chronic extensions may have contributed to the problem of low formalization rates, both in terms of initial registration and, perhaps more significantly, in terms of completing the process. After all, what is the rush if, as seems to be the case, the deadline will be extended over and over? Although these extensions may be well-intentioned (meant to enlarge the pool of miners that achieve formalization),¹⁵⁵ at some point a firm deadline must be established to incentivize formalization once and for all—and not just eventually, at some unknown point in the distant future.¹⁵⁶

Alternatively, if the government elects to proceed without a deadline, it should at least establish clear benefits for important milestones: registration, approval of an environmental management plan, compliance with tax obligations, and, perhaps most importantly for present purposes, demonstrated use of mercury-free mining techniques. Here, though, it is important to note a major

¹⁴⁸ <https://tc.gob.pe/jurisprudencia/2025/00017-2023-AI.pdf>

¹⁴⁹ <https://tc.gob.pe/jurisprudencia/2025/00017-2023-AI.pdf>

¹⁵⁰ Interview with Cesar Ipenza Peralta.

¹⁵¹ <https://www.infobae.com/peru/2024/12/01/solo-el-2-de-los-mineros-se-formaliza-en-peru-tras-siete-anos-del-reinfo/>

¹⁵² <https://www.infobae.com/peru/2024/12/01/solo-el-2-de-los-mineros-se-formaliza-en-peru-tras-siete-anos-del-reinfo/>

¹⁵³ <https://www.infobae.com/peru/2024/12/01/solo-el-2-de-los-mineros-se-formaliza-en-peru-tras-siete-anos-del-reinfo/>

¹⁵⁴ <https://www.infobae.com/peru/2024/12/01/solo-el-2-de-los-mineros-se-formaliza-en-peru-tras-siete-anos-del-reinfo/>

¹⁵⁵ It should be noted, too, that some observers point to corruption and undue influence from illegal miners as the true cause for the extensions.

¹⁵⁶ Many local NGOs, including the Observatorio de Minería Ilegal, have denounced the latest extension as tantamount to Congress abdicating its role to reduce informal and illegal mining. See, e.g., <https://www.observatoriomineriailegal.org.pe/archives/portfolio-items/pronunciamiento-congresistas-que-aprueben-reinfo-seran-complices-mineria-ilegal>.

risk of an entirely open-ended program: If an informal miner can access the benefits at any point, regardless of how long they have been engaged in mining (e.g., without a showing that they have been mining since, say, 2015), this could continuously encourage people to begin mining informally. If Peru's goal is to bring existing informal miners into the fold without preserving the status quo of a new crop of informal miners every year, a registration deadline (to say nothing of a deadline for completing the process) seems critical. Again, imposing a registration deadline does not mean blocking new entrants into ASGM mining; it simply means that aspiring miners would have to proceed through the "ordinary" process of obtaining a license *prior* to breaking ground.

4. Mercury Use in Gold Mining and Imports of Mercury for Use in Gold Mining

Peru does not prohibit the use of mercury in gold mining, at least not in a direct, explicit way. Although the use of mercury in gold mining may be illegal in many cases (e.g., for want of a permit, when used in areas not zoned for gold mining), there is no law that categorically prohibits its use.

Cognizant of this gap, several actors and organizations have called for legislation to phase out mercury use in gold mining, with a complete prohibition by 2030. These calls include the introduction of at least one bill to this effect¹⁵⁷ and, more recently and from an important civil-society coalition, a proposal in the context of new sector-wide legislation (the "Ley MAPE," discussed below).¹⁵⁸

Related to use, of course, is the issue of imports. Despite several popular press articles referencing a "ban" on imports of mercury for use in mining, Peru has not gone quite that far. Instead, Peru has chosen to severely restrict but nevertheless allow mercury imports, subject to demanding controls under Legislative Decree No. 1103.¹⁵⁹

The controls established in Legislative Decree No. 1103, combined with apparently strong enforcement of those controls at formal customs points (ports, etc.), have led to dramatic decreases in the amount of mercury legally imported to Peru. The following graphic shows declared imports following significantly after 2013 and especially after 2014.

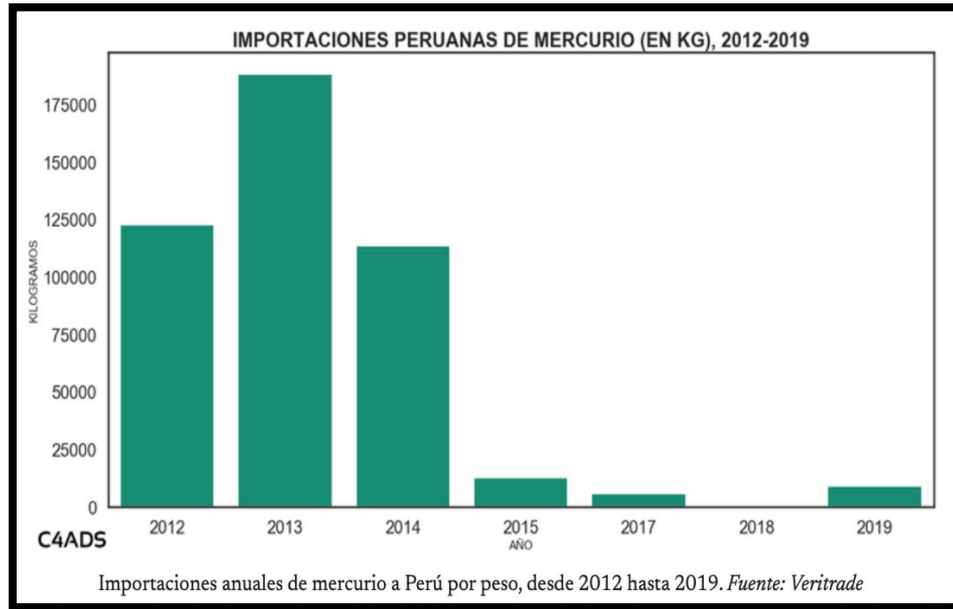
Image 2: Peruvian Mercury Imports from 2012 to 2019¹⁶⁰

¹⁵⁷ Congressman Edward Malaga Trillo presented Proyecto de Ley 6906/2023-CR in June 2024 to a congressional committee (the Andean, Amazonian, Afro-Peruvian, Environment and Ecology Commission, or CPAAAE), calling for the progressive reduction of the use of mercury in the processing of gold in artisanal and small-scale mining and its complete elimination by 2030. As of this writing, that bill remains in the hands of the CPAAAE committee.

¹⁵⁸ https://www.observatoriomineriailegal.org.pe/wp-content/uploads/2025/03/10Propuestas_LEY_MAPE_OMI_mar25_002.pdf

¹⁵⁹ <https://www.minam.gob.pe/wp-content/uploads/2017/04/Decreto-Legislativo-N°-1103.pdf>

¹⁶⁰ Image extracted from <https://c4ads.org/commentary/senderos-venenosos/>

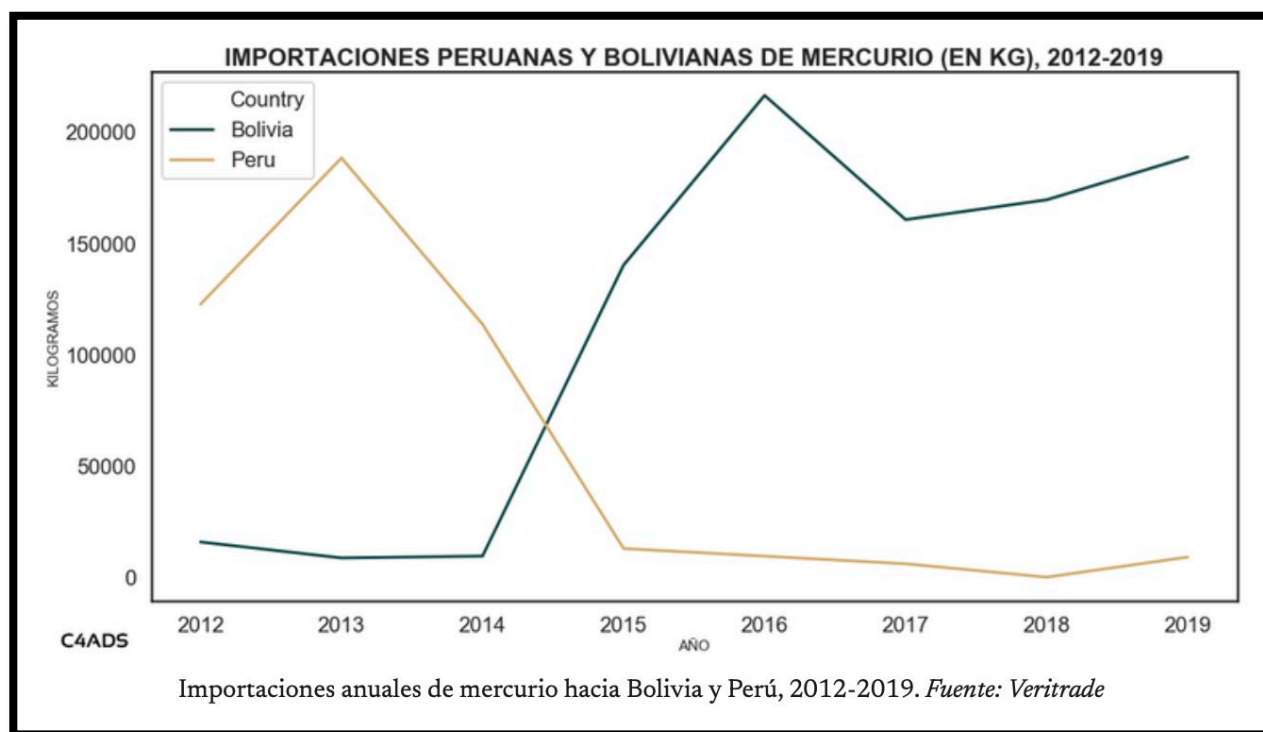


To be sure, this reduction is impressive: Peru is importing far less mercury, at least through legal channels, than in years past. Apart from the obvious question mark around clandestine imports, however, there is another major caveat to the good news. As Peru's declared imports of mercury have dropped, they have skyrocketed in neighboring Bolivia (see image directly below).¹⁶¹ When combined with the high number of reports tracking the illegal flow of mercury from Bolivia to Peru (and also to Brazil),¹⁶² Peru's reduction of official imports loses some of its shine. From a regional perspective, the shift of lawful imports from Peru to Bolivia raises a troubling evaluative question: With due respect for Peru's effort (and it should be lauded no matter what), has this translated to less mercury circulating within the Amazon Basin in the aggregate? The answer is unclear.

¹⁶¹ <https://c4ads.org/commentary/senderos-venenosos/>

¹⁶² For more information on the Bolivia-to-Brazil pipeline, see <https://infoamazonia.org/en/storymap/the-illegal-route-of-mercury-from-bolivia-to-brazil%E2%99%A2%E2%99%A2/>

Image 3: Peruvian Imports Compared with Bolivian Imports¹⁶³



5. Prohibited Equipment and Protections for Freshwater Resources

One main goal of formalization is, of course, to shift informal miners away from bad practices and toward better ones. With this in mind, the Peruvian government has issued several laws, decrees, and resolutions to clarify permitted and prohibited practices within the artisanal and small-scale gold mining sectors. A keystone instrument in this area is Legislative Decree No. 1,100 (2012), which, among other matters, establishes (1) important prohibitions related to the use of dredgers and similar equipment within rivers, lakes, and other freshwater ecosystems, and (2) enforcement powers in interdiction operations.¹⁶⁴

Specifically, Legislative Decree No. 1,100 states that the following shall be prohibited in “small-scale and artisanal mining”:

5.1 The use of dredges and other similar devices in all watercourses, rivers, lakes, lagoons, ponds, oxbow lakes, water bodies, wetlands and *aguajales*.

Similar devices [i.e., devices whose use is also prohibited in the aforementioned water bodies and systems] are understood as the following:

(a) Mobile or portable units that suck materials from the beds of rivers, lakes and watercourses for the purpose of extracting gold or other minerals.

¹⁶³ Image extracted from <https://c4ads.org/commentary/senderos-venenosos/>

¹⁶⁴ <https://www.minam.gob.pe/wp-content/uploads/2017/04/DLeg-1100.pdf>

(b) Hydraulic dredge, suction dredges, gringo raft, castle raft, dredge raft, *tracas* and *carancheras*.

(c) Others that have a suction pump of any dimension and that have or not incorporated a sieve or chute.

(d) Any other device that causes similar effect or damage.

5.2 Goods, machinery, equipment and supplies used for the development of illegal mining activities, such as the use of front loaders, backhoe loaders, dump trucks, pneumatic compressors and drills, tanker trucks that provide fuel or water and other equipment that, regardless of their power, size, volume or load capacity, are intended for the same purpose.

5.3 The installation and use of chutes, *quimbaletes*, mills and cyanidation ponds for ore processing, motor pumps and other equipment, regardless of their power, size, volume or load capacity, and which are used in the development of illegal mining activities. The corresponding control entities and the Ministries of the Interior, Production, Transportation and Communications, within the framework of their functions and competencies, are responsible for controlling and supervising the distribution, transportation, commercialization, possession and use of mercury or cyanide.

5.4 The goods, machinery, equipment and inputs indicated in paragraph 5.2 of this article may be used by informal miners within the scope of small-scale mining or artisanal mining activities.¹⁶⁵

As to enforcement of these prohibitions, Legislative Decree No. 1,100 invests interdiction powers in the Public Ministry (Peru's main prosecutorial unit), the National Police, and the Coast Guard (which, importantly, has jurisdiction over rivers as well as the sea). Prior to taking enforcement actions against any miners that may be in violation of the above prohibitions, one or more of these branches is to first contact the Ministry of Mines and Energy to request any authorization or mining title that may correspond to the miners in question. The Ministry of Mines and Energy then has fifteen working days to provide this information to the Public Ministry, the National Police, and/or the Coast Guard.

Once the Ministry of Mines and Energy has responded, law-enforcement authorities can begin interdiction and take the following actions: (1) seizure of goods, machinery, equipment, and prohibited inputs (*insumos prohibidos*); and (2) destruction of goods or machinery that "due to their characteristics or situation" are not fit for seizure.¹⁶⁶ Based on conversations with a local expert, the latter clause can encompass everything from dredges, rafts, boats, and suction compressors to backhoes and earthmovers. The basic notion seems to be two-fold: first, that some of the equipment found in gold mining sites has no legitimate place in the market (e.g., suction dredges); and second, that it is logistically extremely difficult and costly to extract heavy machinery from the often-remote locations where alluvial gold mining occurs.

¹⁶⁵ <https://www.minam.gob.pe/wp-content/uploads/2017/04/DLeg-1100.pdf>

¹⁶⁶ <https://www.minam.gob.pe/wp-content/uploads/2017/04/DLeg-1100.pdf>

Although the prohibitions and interdiction powers described in Legislative Decree No. 1,100 are both significant and helpful, at least three additional notes point to problematic issues with implementation. First, the Decree seems to provide the Ministry of Mines and Energy with far too much time to process requests for information—prior to interdiction—from law-enforcement authorities. While the desire to confirm the absence of a mining title prior to interdiction is understandable (especially if the interdiction involves destruction of property), fifteen working days seems excessive. Allowing this much time increases the risks of leaks and tip-offs to illegal miners and may even open a window for corrupt interference in the would-be interdiction by a compromised official.

Second, the sweeping list of prohibited machinery and equipment is not as expansive as it may seem, due to a later amendment to the Decree. Specifically, a 2017 amendment provides that several of the items listed in Article 5.2 (including front loaders, backhoe loaders, dump trucks, pneumatic compressors and drills, and tanker trucks) are in fact legal for use by “informal miners” operating within the ambit of “small-scale and artisanal mining,”¹⁶⁷ recalling—critically—that “informal mining” is defined as mining by individuals who have begun the formalization process.¹⁶⁸ Accordingly, law-enforcement authorities do not have the power to seize or destroy such items (probably the most expensive) from ASGM operators who have begun the formalization process by registering with REINFO. Although this exception seems perhaps overbroad at first blush—and it may still be upon further reflection—it is important to keep in mind that the exception further incentivizes formalization. The basic message is this: “Register with REINFO and your capital-intensive machinery will be safe.” (Note, however, that there remains a potential additional legal ambiguity: What happens if an informal miner, registered with REINFO, uses excepted equipment (e.g., a backhoe) in connection with, say, a suction dredger in a river? The latter piece of equipment, and the dredging operation in general, would seem to be illegal and subject to enforcement action. It is unclear if the backhoe would suffer the same fate as operationally connected to the suction dredger.)

Finally, and importantly, Legislative Decree No. 1,100 expressly provides that the interdiction actions it authorizes (seizure and/or destruction) do not preclude other administrative, civil, or criminal penalties that may pertain to the case in question. Those penalties are discussed in relevant part below. Nevertheless, while seizure-and-destruction operations in the field do not legally preclude additional penalty actions, it is not clear how frequently the authorities follow up with formal prosecution.

6. Criminal Penalties and Enforcement in Peru

Effective control of illegal gold mining, in Peru or elsewhere, would seem to require or at least benefit from: (1) sufficient enforcement resources; (2) separate legal provisions to account for

¹⁶⁷ <https://www.minam.gob.pe/wp-content/uploads/2017/04/DLeg-1100.pdf>

¹⁶⁸ To be precise, Article 2.1 of Legislative Decree No. 1336 (2017) defines “informal mining” as follows: “Actividad minera realizada en zonas no prohibidas por aquella persona, natural o jurídica, que se encuentre inscrita en el Registro Integral de Formalización Minera cumpliendo con las normas de carácter administrativo y además, con las condiciones previstas en el artículo 91 del Texto Único Ordenado de la Ley General de Minería, aprobado por el Decreto Supremo N° 014-92-EM.”

aggravating and mitigating circumstances, allowing for fine-tuning of penalties; and (3) efforts to target the financiers and beneficiaries of illegal gold mining operations using mercury.

Concerning the latter two points, both go to the real or perceived problem of disproportionate enforcement against the lowest, and often most vulnerable, actors in illegal gold mining operations. Scholars have observed that, as with other transnational illicit industries, it may be the weakest actors in environmental crime networks that bear the brunt of prosecution and punishment.¹⁶⁹ Although empirical data on the point is scarce, this dynamic, if true or even simply believed to be true, can undermine the legitimacy of government efforts to fight environmental crime, including illegal gold mining using mercury. If communities feel that the weak and vulnerable pay the price while more powerful actors organizing, financing, or benefiting from illegal gold mining enjoy impunity or minimal consequences, such communities may be reluctant to cooperate with enforcement and reform efforts.

To combat these legitimacy-sapping forces, governments can consider establishing higher penalties for aggravating circumstances in offenses involving gold mining with mercury, including, *inter alia*, recidivism, the degree of profit or benefit received, and organizational role. Penalty enhancements like this are common in many jurisdictions and for many offenses, including for illegal mining offenses.

In Peru, the crime of illegal mining is subject to an imprisonment term of between four to eight years, in addition to a fine.¹⁷⁰ This baseline is reduced, however, in the case of *negligent* illegal mining (e.g., unknowingly operating beyond the expiration date of a license) to a penalty of no more than three years' imprisonment or community service.¹⁷¹ On the other hand, the penalty is increased to between eight to ten years' imprisonment and a higher fine if the illegal mining: (1) occurred in areas not zoned for mining; (2) occurred in protected natural areas, or in lands of native, peasant or indigenous communities; (3) used dredges or other similar instruments; (4) used instruments or objects capable of endangering the life, health, or property of persons; (5) affected irrigation systems or water intended for human consumption; (6) was committed by a public official in abuse of her status or privilege; (7) was committed with the exploitation of minors.¹⁷² Circumstance (4) (i.e., illegal mining using instruments or objects capable of endangering the life, health, or property of persons) seems tailor-made for mercury cases.

Continuing with this pattern of fine-tuning, Peru has separately criminalized financing illegal mining,¹⁷³ obstructing the work of mining oversight authorities,¹⁷⁴ and trafficking of chemicals and equipment destined for use in illegal mining.¹⁷⁵ The provision on financing illegal mining, in

¹⁶⁹ See, e.g., D. Kaimowitz, *Forest Law Enforcement and Rural Livelihoods*, 5 International Forestry Review 199 (2004) (observing that, in the illegal logging context, “[f]orestry and wildlife departments generally enforce forestry and protected area legislation more vigorously and with less respect for due process and human rights when poor people are involved”).

¹⁷⁰ <https://cdn.www.gob.pe/uploads/document/file/3621138/CÓDIGO%20PENAL.pdf.pdf?v=1663014332>

¹⁷¹ <https://cdn.www.gob.pe/uploads/document/file/3621138/CÓDIGO%20PENAL.pdf.pdf?v=1663014332>

¹⁷² <https://cdn.www.gob.pe/uploads/document/file/3621138/CÓDIGO%20PENAL.pdf.pdf?v=1663014332>

¹⁷³ 307-C.

¹⁷⁴ 307-D.

¹⁷⁵ 307-E.

particular, showcases a determined effort to single out for greater punishment those who make possible (and often organize and benefit the most from) illegal mining.¹⁷⁶ The penalty for this crime is a fine and between four and twelve years imprisonment, a maximum one-third higher than the penalty corresponding to illegal mining as such.¹⁷⁷

Building on the provisions described above, Peru's Law Against Organized Crime creates a framework that enables authorities to more effectively target, prosecute, and punish the intellectual authors and beneficiaries of larger illegal gold mining operations. In broad terms, this law designates several crimes, including illegal mining and money laundering as forms of organized crime (assuming other criteria are established, such as multiple criminal actors working in concert over time); furnishes authorities with several special tools (e.g., wiretaps, undercover agents) designed to facilitate more aggressive investigation and prosecution; and establishes higher penalties upon conviction. Although empirical data on the use and effectiveness of this law in the fight against illegal mining with mercury has been difficult to obtain, the law, from a design perspective, paves a pathway for investigators and prosecutors to build larger cases that target the leaders of illegal gold mining groups and the networks they control.

Of course, to be effective, all these tools depend upon sufficient enforcement resources. Here, recent news from Peru's environmental crime prosecutors' office—known as the *Fiscalía Especializada en Materia Ambiental* (or “FEMA”)—is concerning. In July 2025, FEMA chief Dr. Frank Almanza decried budget cuts, declaring that FEMA would not be able to adequately confront illegal mining without additional funding.¹⁷⁸ In fact, Dr. Almanza stated that the budget for illegal mining had been set to “zero.”¹⁷⁹ Assuming Dr. Almanza's statements are even close to accurate—and acknowledging the ubiquity of budget shortfalls in environmental work—this would seem to be an obvious area for course correction.

7. Closing Thoughts

Although disagreements abound as to the best way forward, there seems to be a consensus that the status quo approach to ASGM, formalization, and mercury is deeply flawed. This consensus certainly prevails within civil society organizations focused on everything from environmental issues and IPLC rights to corruption and organized crime. And, based upon the number of pending bills and governmental statements on the matter, it appears that the consensus exists at the political level.

More concretely, it seems likely that the Peruvian government will pass new legislation focused on artisanal and small-scale mining in the near future. There are at least three competing bills focused on this topic—although one has emerged as the apparent leader, having gained presidential support—and many leading local NGOs have taken positions and expended energy to influence the character of the (likely) forthcoming legislation. In both the popular press and civil-

¹⁷⁶ 307-C.

¹⁷⁷ 307-C.

¹⁷⁸ <https://www.actualidadambiental.pe/falta-de-presupuesto-limita-la-lucha-contra-la-mineria-ilegal-segun-el-ministerio-publico/>

¹⁷⁹ <https://www.actualidadambiental.pe/falta-de-presupuesto-limita-la-lucha-contra-la-mineria-ilegal-segun-el-ministerio-publico/>

society publications (as well as some congressional committee documents), this new legislation is called the “Ley MAPE” or the “Nueva Ley MAPE,” an abbreviated version of *Ley de la Pequeña Minería y Minería Artesanal* (Law of Small-Scale and Artisanal Mining). As the title of this legislative effort suggests, the new law would not focus exclusively on gold mining using mercury, or even just gold mining per se. Instead, it would aim to improve upon several deficiencies in the current governance approach to artisanal and small-scale mining, including especially formalization and environmental management.

While dissecting the details of each proposal is beyond the scope of this paper (and probably the reader’s interest), a discussion of the leading proposal and NGO commentary on the same is instructive.

- **Proyecto de Ley No. 9555/2024-PE (Ley MAPE)**

In late 2024, the Council of Ministers approved and presented to Congress Proyecto de Ley 9555/2024-PE, better known as the “Ley MAPE.” Although the bill states that its purpose is to regulate the activities of small-scale and artisanal mining in the country—and there is little question about the accuracy of that statement—it also seems that the bill is meant to wipe the slate clean on many past formalization approaches and, in effect, to replace the REINFO regime going forward.¹⁸⁰

Among other measures, the Ley MAPE proposal would create special zones wherein artisanal and small-scale miners will be permitted to operate. These special zones will consist of lands zoned for mining that are free from mining titles held by others or, in cases wherein a third-party had held a mining title, that title reverted to the state.¹⁸¹ These zones may not include areas (such as protected areas), wherein mining is otherwise prohibited. Within these zones, small-scale miners may apply for concessions to mine up to four 25-hectare plots, while artisanal miners may apply for a concession over one 25-hectare plot. Any concessions and titles granted under this scheme are non-transferable.

Further, the Ley MAPE envisions the creation of additional special zones for artisanal miners only. These zones would likewise be located in lands zoned for mining that are free from mining titles held by others or, in cases wherein a third-party had held a mining title, that title reverted to the state. The specific areas would be determined by the *Instituto Geológico, Minero y Metalúrgico* (INGEMMET). Mining permits under this provision would be issued by the corresponding regional government (which, it should be noted, heightens the risk of corruption in the eyes of many observers). Permits in these zones would also be non-transferable and would be up to 10-hectares in size.¹⁸²

Employing another strategy to boost formalization, the Ley MAPE would also allow the formation of contracts for mineral exploitation between current holders of mining rights, on the one hand,

¹⁸⁰ See <https://www.infobae.com/peru/2024/11/21/se-aprobo-proyecto-de-ley-mape-en-consejo-de-ministros-en-que-consiste/>

¹⁸¹ Ley MAPE Proposal, Art. 4, 7 <https://proactivo.com.pe/revisa-aqui-el-proyecto-de-la-ley-mape-aprobado-por-el-ejecutivo-y-remitido-al-congreso-pdf/>

¹⁸² Ley MAPE Proposal, Art. 8.

and small-scale or artisanal miners, on the other. (Note that this is similar to a feature seen in Colombia, discussed below.) Financial incentives are provided for both parties to strike these contracts. As at least one important safeguard against rewarding or incentivizing deforestation and illegal land-grabbing, the Ley MAPE prohibits contracts when the area in question has suffered from invasion of third parties' mining rights or is the subject of a denouncement, pending litigation, or sanction cases involving such invasion.

To manage the significant amount of information and documentation associated with this project, the Ley MAPE proposes the creation of the Interoperable System for Small-Scale and Artisanal Mining (SIPMA). SIPMA would be a digital platform designed to integrate information related to both small-scale and artisanal mining and, according to the bill, it would be publicly accessible.

As concerns oversight and management of contracts between mining title holders and artisanal and/or small-scale producers, the Ley MAPE would assign regional governments the primary role in this area. They would authorize, supervise, and oversee the activities, as well as formalize and renew the contracts. Here, the regional governments would be able to outsource to companies the supervision and oversight activities regarding safety and occupational health.

Finally, and perhaps of most significance from an environmental perspective, the Ley MAPE provides that, in the context of contracts between mining title holders and artisanal and/or small-scale producers, it is the artisanal and/or small-scale producers who will be held liable for environmental violations and any resulting environmental damages. (Again, this seems to partially mirror the Colombian approach.) Although this assignment of responsibility makes sense, both logically and to incentivize mining title holders to forge these contracts (title holders might otherwise find themselves reticent to enter contracts if they were held primarily responsible for environmental harm caused by reckless or illegal practices of mining tenants), the Ley MAPE does go on to state that title holders have “subsidiary responsibility” for environmental restoration. Although the nature of this “subsidiary responsibility” is not clearly defined, the cause seems to suggest that the title holder would be responsible if, for example, the mining tenant that caused the environmental harm were destitute or without any means of payment for restoration.

- **Commentary and Recommendations from Civil Society**

While there may be a consensus that the REINFO system has failed to achieve sufficient levels of formalization and concomitant reductions in mercury use and environmental harm, this does not mean that NGOs and civil-society groups are entirely satisfied with the proposed Ley MAPE discussed above. One leading organization, the Illegal Mining Observatory (*Observatorio de Minería Illegal*) recently released a list of ten policies that it would like to see in the new Ley MAPE. Comparing these policies, a subset of which are summarized below, to the draft Ley MAPE discussed above shows significant distance between the vision of civil society advocates and the current official bill.

A few of the more important recommendations from the Illegal Mining Observatory run as follows:

- **Clearer definitions for artisanal and small-scale miners; differential treatment for newer entrants into the formalization process.** Essentially, the Illegal Mining Observatory here calls for (1) tighter definitions of artisanal and small-scale mining,

presumably to ensure that larger operations do not qualify, and (2) a stricter approach for miners who formalize under the new Ley MAPE as compared to those who formalized under the old regime and REINFO where, at least in practice, environmental and other standards were lax.

- **A stronger mercury-reduction policy, coupled with more support for cleaner technologies and improved traceability.** Here, the Illegal Mining Observatory is particularly critical of the proposed Ley MAPE's lack of strong provisions on mercury. With this in mind, the Illegal Mining Observatory requests inclusion of a new article that would:
 - require the government to generate transparency mechanisms regarding the traceability of minerals produced by artisanal and small-scale mining operations;
 - prohibit the use of mercury by artisanal and small-scale miners by 2030 (apparently with some sort of phase-out schedule); and
 - mechanisms to prevent the delivery of gasoline and diesel to illegal mining operators, along with cancellation of permits should artisanal and small-scale miners be found facilitating such delivery.
- **Clearer protections for protected areas, buffer zones, and Indigenous territorial reserves.** Although the Ley MAPE bill contains language stating that the new “special zones” for artisanal and small-scale meaning may not be established in areas where mining is prohibited (and the same would appear to apply for areas involving contracts with mining title holders), the Illegal Mining Observatory proposes clearer language on this front. Specifically, the NGO proposes the following text: “MINEM [the Ministry of Mines and Energy] shall establish, through a supreme decree, special zones for artisanal miners for exploitation in areas free of mining rights or in areas where they have reverted to the state, excepting Madre de Dios, Natural Protected Areas, their buffer zones, Territorial Reserves for Indigenous people in isolation and initial contact, bodies of water and cultural heritage areas, among others.” In addition to being far more explicit as to areas off-limits to the formalization program, this proposed text is noteworthy for its position on the entire Department of Madre de Dios. Because Madre de Dios has become synonymous with out-of-control illegal gold mining, it appears that the Illegal Mining Observatory would prefer to see the entire Department excluded from the formalization program. Whether this is feasible—and how the miners operating in the Department would respond—seem like critical questions.
- **Stronger oversight by national authorities in place of regional authorities.** Echoing concerns aired in the popular press, the Illegal Mining Observatory questions the wisdom of counting on regional authorities to approve and oversee contracts and otherwise play a lead role in the formalization process. The Illegal Mining Observatory doubts whether regional authorities have the necessary resources, expertise, and wherewithal to take on

this role—and, at least implicitly, seems to be concerned with greater corruption at the regional level.

At this point, things are clearly moving fast in Peru as concerns the future of formalization and ASGM using mercury. It remains to be seen whether the new system will mark a significant change from the story to date, which has been one of low formalization rates at a disappointing pace and not nearly enough progress as concerns mercury. On a more hopeful note, the current

dynamism of law and policy in this area create opportunities to advocate for, and assist in the development and implementation of, a better regime moving forward.

C. Colombia

By some estimates, illegal and informal mining collectively account for more than 70% of all gold extracted in the country and a majority share of exports.¹⁸³ In financial terms, the profits are staggering: In Colombia, the world's leading producer of cocaine, the value of illegal gold exports eclipses that of drug exports.¹⁸⁴ Rather than competing with drug trafficking, however, illegal and informal gold mining complements the narcotics trade, serving as “the easiest and most profitable way to launder money in the history of Colombian drug trafficking.”¹⁸⁵ As a result, Colombia's drug-trafficking organizations and armed insurgency groups have come to dominate many gold mining operations, whether through direct ownership and management or extortion rackets.¹⁸⁶

Along the way, Indigenous and rural Afro-Colombian communities disproportionately fall

victim to the ills of illegal and informal gold mining. According to a UNODC study, 47% of alluvial gold mining activity occurs in areas designated as excluded or restricted vis-à-vis mining, ranging

The Role of “Outsiders” in Informal and Illegal Gold Mining

In each of the focus countries, illegal and informal ASGM is conducted, to some extent, by both IPLCs (anything but a monolithic cohort) and “outsiders.” Discerning the proportion of problematic ASGM performed by these respective groups is no easy task. That being said, investigative journalism and other reports from each of the focus countries indicate that some of the most damaging and intensive mercury-based gold mining is conducted in or near IPLC communities by outsiders. See, e.g., Carol Sánchez, *Illegal Mining in Colombia's Amazon Threatens Indigenous Communities*, Mongabay (Aug. 24, 2021), <https://news.mongabay.com/2021/08/illegal-mining-in-colombias-amazon-threatens-indigenous-communities/> (describing encroachment by “outsiders,” as well as collusion between some indigenous residents and outside mining interests); Yolanda Booyzen, *New Database Reveals the Struggle for Human Rights and Environmental Justice in Bolivia*, HURIDOCS (Oct. 13, 2022), <https://huridocs.org/2022/10/new-database-reveals-the-struggle-for-human-rights-and-environmental-justice-in-bolivia/> (describing a violent attack that “occurred in Madidi National Park when illegal miners targeted members of the Senate's Land and Territory Committee and representatives from Amazonian Indigenous organisations”).

¹⁸³ https://www.oas.org/en/sms/dtoc/docs/On-the-trail-of-illicit-gold-proceeds_Colombias-case.pdf

¹⁸⁴ <https://globalinitiative.net/wp-content/uploads/2016/03/Organized-Crime-and-Illegally-Mined-Gold-in-Latin-America.pdf>

¹⁸⁵ <https://globalinitiative.net/wp-content/uploads/2016/03/Organized-Crime-and-Illegally-Mined-Gold-in-Latin-America.pdf> (quoting Colombia's Institute for the Study of Development and Peace

¹⁸⁶ <https://globalinitiative.net/wp-content/uploads/2016/03/Organized-Crime-and-Illegally-Mined-Gold-in-Latin-America.pdf> at pp. 10-12.

from national parks to Indigenous reservations and designated Afro-Colombian community lands.¹⁸⁷ In the Department of Chocó alone, a whopping 84% of alluvial gold mining sites are located in Afro-Colombian Community Territories.¹⁸⁸ As for Indigenous Reserves, UNODC found that 35 such Reserves harbored alluvial gold mining.¹⁸⁹ In geographical terms, the UNODC estimates that illicit mining operations in Colombia span more than 64,000 hectares, with nearly 30,000 hectares in Indigenous territories or other areas not yet approved for mining.¹⁹⁰ In short, Indigenous and Afro-Colombian communities bear the brunt of illegal gold mining, entrenching and compounding historical social inequities.

In addition to its synergistic relationship with timber trafficking and other forestry crimes, illegal and informal gold mining in Colombia goes hand-in-hand with forced labor, human trafficking, and other crimes against women and children.¹⁹¹ Reports of abuses abound: women being bussed into remote mining areas to “serve miners”;¹⁹² local residents forced to work in appalling conditions under systems reminiscent of notorious colonial-era practices, wherein the pay is simply the opportunity to keep a small amount of the gold extracted;¹⁹³ debt bondage, extortion, and the

Confluence of Environmental Crimes

Colombia, like many countries in tropical Latin America, struggles with illegal gold mining, timber trafficking, and other forms of organized crime, most notoriously drug production and trafficking. Bad enough on their own, these criminal industries cross paths and multiply, reinforcing each other to create lawless ecosystems where profit, exploitation, and corruption often eclipse the powers of the state. As numerous NGOs, IGOs, and journalists have observed, Colombian drug-trafficking organizations and armed insurgency groups have become heavily involved in gold mining and timber trafficking to access new revenue sources, to launder money, and to solidify territorial control. See Maria Luisa Valencia, *Gold Mining in Colombia Increasingly Tied to Organized Crime*, Insight Crime (Dec. 7, 2023); <https://insightcrime.org/news/gold-mining-colombia-increasingly-tied-organized-crime-report/>; *Exploring Illegal Mining in Colombia's Amazon*, Insight Crime (Sept. 8, 2021), <https://insightcrime.org/news/gold-mining-colombia-increasingly-tied-organized-crime-report/>; <https://insightcrime.org/investigations/exploring-illegal-mining-colombia-amazon/>.

luring of young men and even children to remote areas under false promises of good work; and then, should any protest arise, violent intimidation and reprisals by mining operators and their armed “muscle.”¹⁹⁴

Environmentally, illegal and informal gold mining cause profound and often irreparable harm.¹⁹⁵ On top of disruption of riverine and riparian ecosystems through the use of heavy machinery and suction dredging, illegal and informal alluvial gold mining are associated with the uncontrolled release of toxic mercury and cyanide, both of which are used in crude amalgamation techniques to separate gold from sediment.¹⁹⁶ According to some experts, illegal and

¹⁸⁷ https://www.unodc.org/documents/publications/Evoa_2016_in_1.pdf at page 9.

¹⁸⁸ https://www.unodc.org/documents/publications/Evoa_2016_in_1.pdf at page 58.

¹⁸⁹ https://www.unodc.org/documents/publications/Evoa_2016_in_1.pdf at page 57.

¹⁹⁰ <https://insightcrime.org/investigations/exploring-illegal-mining-colombia-amazon/> (citing UNODC data).

¹⁹¹ <https://www.interpol.int/en/News-and-Events/News/2022/The-devastating-impact-of-illegal-gold-mining-in-Latin-America>; <https://insightcrime.org/news/gold-mining-colombia-increasingly-tied-organized-crime-report/>

¹⁹² <https://www.reuters.com/article/idUSL5N1124T7/>

¹⁹³ See <https://www.ucpress.edu/book/9780520383357/potosi>

¹⁹⁴ <https://humanrightsfirst.org/library/forced-labor-and-blood-gold-in-colombia/>

¹⁹⁵ <https://www.sciencedirect.com/science/article/abs/pii/S0305750X22001437>

¹⁹⁶ <https://www.sciencedirect.com/science/article/abs/pii/S0305750X22001437>

informal gold mining make Colombia the world's highest per capita mercury polluter.¹⁹⁷ Mercury pollution from mining causes major harm to workers, surrounding communities, and entire ecosystems, as mercury bioaccumulates in food-webs.¹⁹⁸

Although Colombia has suspended most legal imports of mercury since ratifying the Minamata Convention in 2023, “mercury filters into the departments of Nariño and Putumayo through the nation’s southern border with Peru,”¹⁹⁹ which in turn receives most of its mercury illegally from Bolivia following imports primarily from Mexico.²⁰⁰ The illegal trade in mercury underscores the elaborate supply chains involved in illegal gold mining. Because these supply chains are complex both in terms of the ultimate product (gold, which also passes through later refinery stages and commingles with legal gold on international markets) and inputs (e.g., mercury, diesel, and mining equipment), authorities face increased burdens in regulatory control and, in case of violations, investigatory and prosecutorial responses.

1. Introduction to Law and Policy Response

Colombia has addressed in myriad ways the use of mercury in gold mining, including in the artisanal and small-scale contexts. Most important to this effort is Law 1658 of 2013, which mandated the complete elimination of mercury in the mining sector through a five-year phase-out period to be completed no later than 2018. Although Law 1658 has in some ways been a success—a follow on decree (Decree 2122 of 2016) banning mercury imports for use in mining as of September 2017 stands as a particularly important development—the ambitious vision of total eradication has not been fulfilled. Despite the ban on imports, mercury use continues to exist in the mining sector, including especially in the ASGM sub-sector, drawing on large black market supplies. Cognizant of this dynamic, the Colombian government appears to recognize that the problem is very complex and requires both more time and a broader approach, including efforts focused on formalization of the ASGM sector, education and capacity-building, and special consideration for Afro-Colombian and Indigenous communities.

With its focus on formalization, and in light of the scale of the problem, it would appear Colombia is taking more of a carrot rather than stick approach to achieving change in this area (although Colombian law certainly authorizes severe penalties for offenses related to mercury use in gold mining). Still, despite not successfully achieving complete eradication of mercury in gold mining as called for in Law 1658 (a tall task, to be sure), Colombia has made significant strides through its import ban and complementary plans and regulations that address formalization and other aspects of the problem.

2. Law 1658 of 2013 and the Basic Framework of Mercury Management

As a Party to the Minamata Convention (ratified through Law 1892 of 2018), Colombia has a duty to follow its mandates, including, as to ASGM mining, the commitment to “take measures to

¹⁹⁷ <https://www.sciencedirect.com/science/article/abs/pii/S0305750X22001437>

¹⁹⁸ <https://www.sciencedirect.com/science/article/abs/pii/S0305750X22001437>

¹⁹⁹ <https://insightcrime.org/news/dirty-business-smuggling-pipeline-carrying-mercury-amazon/>

²⁰⁰ *Id.*

reduce and, where feasible, eliminate the use of mercury and mercury compounds from such activities and the emissions and releases of mercury into the environment resulting from them.”²⁰¹

Although the Minamata Convention does not require the elimination of the use of mercury in the ASGM sector but rather counsels elimination “where feasible,” in 2013 Colombia passed Law 1658, which on its face goes above and beyond Minamata by mandating the “eradication” of the use of mercury in mining within a five-year phase-out period.²⁰² The significance of this law warrants a provision-by-provision analysis, as follows:

- Article 1 states that the objective of Law 1658 is to “regulate the use, importation, production, marketing, handling, transportation, storage, final disposal, and release into the environment of mercury throughout the national territory,” thus providing a comprehensive set of goals relating to the entire chain of custody of mercury.²⁰³
- Article 2 deals with international agreements and cooperation and mandates “a national policy” for “the reduction and elimination of the use of mercury in the different industrial activities of the country where said substance is used.”²⁰⁴ It further refers to international cooperation with the goal of “taking advantage of the experience, advice, [and] training” of international entities.²⁰⁵
- Article 3 mandates that relevant ministries (such as the Ministry of Environment and Sustainable Development and the Ministry of Mines and Energy) establish “necessary regulatory measures” to “reduce and eliminate in a safe and sustainable way” the “use of mercury in . . . industrial activities in the country.”²⁰⁶ Thus, as is the case with many laws, Law 1658 envisions implementing regulations to carry out its provisions. One such regulation, discussed in more detail below, is Decree 2133 of 2016, governing imports and sales of mercury.

²⁰¹ Minamata Convention, Art. 7, para. 2.

²⁰² Law 1658 of 2013.

²⁰³ Law 1658 of 2013, Art. 1.

²⁰⁴ Law 1658 of 2013, Art. 1.

²⁰⁵ Law 1658 of 2013, Art. 2.

²⁰⁶ Law 1658 of 2013, Art. 2.

- The most ambitious and arguably central provision in Law 1658 is also found in Article 3, where the legislation commands the complete eradication of mercury as follows: “The use of mercury shall be eradicated throughout the national territory, in all industrial and productive processes, within a period of no more than ten (10) years, and for mining, within a maximum period of five (5) years.”²⁰⁷ While the law envisions a phase-out process over the course of 10 years and 5 years, for industrial and productive processes and for mining, respectively, the law is nevertheless a highly ambitious endeavor, at least if interpreted as requiring that Colombia truly exist as a mercury-free jurisdiction, as opposed to simply requiring reasonable efforts to achieve that goal.
- Article 4 then envisions the creation of a registry system for users of mercury starting with the mining sector, but again, with respect to mercury in mining, it delegates responsibility for carrying out the specifics of this mandate to the relevant ministries, especially the Ministry of Mines and Energy.²⁰⁸
- Regarding control of importation and commercialization of mercury, Article 5 mandates that relevant ministries establish within a maximum period of 2 years “measures to control and restrict the import and sale of mercury and products containing it,” and furthermore that “a Single National Registry of authorized importers and marketers will be created,” to be enforced by customs and police agencies.²⁰⁹

Immediate Prohibitions Versus Phase-Out Policies

The most obvious way to reduce mercury in gold mining is to ban its use for such purpose, immediately or very shortly after the legislation takes effect, with penalties for non-compliance. To cite an example of a straightforward ban, Uganda passed legislation in 2022 providing that “[t]he use of mercury in mining operations is prohibited.” See Uganda Mining and Minerals Act (2022), Art. 225(1). As discussed below, Ecuador has elected a similar approach.

In theory, categorical prohibitions of this sort have the advantage of simplifying the enforcement landscape. If a miner of any kind uses mercury, that miner is breaking the law; defenses are virtually non-existent.

A phase-out policy, like that in Colombia’s Law 1658, has both advantages and disadvantages when compared to an immediate prohibition.

The chief advantage of a phase-out approach is that it allows authorities to socialize the forthcoming prohibition, thus eliminating “unfair surprise,” and to develop or disseminate feasible alternatives to mercury. Relatedly, the period can be used to train and prepare officials to effectively police the forthcoming prohibition. And a mercury phase-out period can work in tandem with a formalization effort.

One risk associated with phase-out approaches, on the other hand, is their susceptibility to prolongation of the phase-out period—or, relatedly, treatment of the phase-out period as a rough goal rather than a deadline—particularly if the legal instrument establishing the phase-out contemplates additional regulatory work by a subject-matter agency (e.g., a mining ministry).

²⁰⁷ Law 1658 of 2013, Art. 3.

²⁰⁸ Law 1658 of 2013, Art. 4.

²⁰⁹ Law 1658 of 2013, Art. 5.

- Articles 6 and 7 designate relevant ministries to take measures to promote cleaner practices in industrial and mining activities.²¹⁰
- Article 8 mandates that relevant ministries (especially the Ministry of Mining and Energy) develop a “single national mercury plan” and issue implementing regulations within a maximum period of one year after the implementation of the registry system for mercury users (provided for in Article 4).²¹¹ Article 8 mandates regulations covering every stage of the mercury cycle, including use, importation, production, marketing, management, transportation, storage, and final disposition.²¹²
- Article 9 prohibits the development of new plants that use mercury for gold mining.²¹³
- Article 10 creates “incentives for the reduction and elimination of the use of mercury in the mining sector.”²¹⁴ The law offers miners “soft loans” for miners to refit and relocate. While the term “soft loan” (*crédito o préstamo blando*) in banking parlance is associated with a low-interest loan payable over a long period than time (i.e., loans not normally available for “normal” borrowers under prevailing market conditions),²¹⁵ Article 10 does not provide any further details on the precise meaning of “soft loans.” That said, the idea seems sound, in that ASGM miners are singled out with an offer of loans to finance the acquisition of new technologies that do not rely on mercury.²¹⁶ Presumably, such loans could be used to acquire equipment like gravity shakers; whether this has occurred in practice requires further investigation.
- Article 11 creates incentives for formalization, especially directed at the ASGM sector.²¹⁷ Specifically, Article 11 is focused on small-scale miners operating within a territory for which a third-party owns a formal mining title; it creates a mechanism for small-scale miners to sign sub-contracts with the title owner, thus bringing those previously informal miners into the system.²¹⁸ In such sub-contracting situations, the sub-contractor, not the title holder, is responsible for environmental compliance, among other legal obligations. This is presumably to encourage title holders to participate in such arrangements. Likewise, Article 11 provides for the eventual conferral of a mining title to small-scale miners who operate in an area with a title held by a third-party. Finally, Article 11 incentivizes small-scale miners to become part of the national registry by providing plans for the gradual reduction of mercury use.²¹⁹

²¹⁰ Law 1658 of 2013, Arts. 6 and 7.

²¹¹ Law 1658 of 2013, Art. 8.

²¹² Law 1658 of 2013, Art. 8.

²¹³ Law 1658 of 2013, Art. 9.

²¹⁴ Law 1658 of 2013, Art. 10.

²¹⁵ See <https://www.investopedia.com/terms/s/softloan.asp>

²¹⁶ Law 1658 of 2013, Art. 10.

²¹⁷ Law 1658 of 2013, Art. 11.

²¹⁸ Law 1658 of 2013, Art. 11.

²¹⁹ Law 1658 of 2013, Art. 11.

- Article 12 establishes the creation of a Colombian Environmental Mining Seal that certifies that products are the result of mining processes that do not use mercury.²²⁰ This is another area where further investigation is required to discern the measure's effectiveness.
- Regarding sanctions and penalties, Article 13 provides for confiscation of mines and equipment, with regulations regarding the same to be created by the Ministry of Mines and Energy.²²¹
- Finally, Article 14 provides for sanctions against government functionaries that fail to carry out their responsibilities under Law 1658.²²² Here, it is possible, but perhaps unlikely, to imagine civil society using this provision to bring litigation against the government for failing to achieve Article 3's command of complete "eradication" of mercury in the mining sector. (See the discussion below regarding citizen suits and potential mechanisms for enforcement of Law 1658.)

On balance, Law 1658 unveiled a comprehensive blueprint for reduction of the use of mercury in mining and increased formalization over time.

3. The Implementation of Law 1658

From one perspective, Colombia has done an admirable job implementing the spirit of Law 1658. Through Decree 2133 of 2016, Colombia banned imports of mercury intended for mining activities as of 2017.²²³ Furthermore, based on the language of Article 3 of Law 1658, Colombia has prohibited the use of mercury in mining since 2018.²²⁴ Colombia has also made strides with formalization, as discussed below. Yet, without meaning to be overly critical, Colombia has clearly not been able to satisfy Law 1658's call to "eradicate" mercury in mining. In fact, in 2019, Colombia's Constitutional Court stated as much emphatically, observing that mercury use in the ASGM sector continues to be an enormous challenge, incapable of resolution through legal prohibitions alone.²²⁵

Decree 2133 of 2016, issued by the office of the President of Colombia, establishes "control measures for the import and sale of mercury and products containing it, within the framework of the provisions of Article 5 of Law 1658 of 2013."²²⁶ While mercury importation was initially allowed for a limited period under this Decree for other purposes, it specifically banned the importation of mercury destined for mining, stating: "As of September 16, 2017, imports of mercury intended for mining activities will no longer be authorized."²²⁷

²²⁰ Law 1658 of 2013, Art. 12.

²²¹ Law 1658 of 2013, Art. 13.

²²² Law 1658 of 2013, Art. 14 (citing Law 734 of 2002).

²²³ https://www.anm.gov.co/sites/default/files/decreto_2133_de_2016.pdf

²²⁴ See <https://archivo.minambiente.gov.co/index.php/noticias-minambiente/4021-entra-en-vigencia-prohibicion-del-mercurio-en-la-mineria-de-oro-en-colombia>

²²⁵ Constitutional Court Sentence C-275 (June 19, 2019), para. 140.

²²⁶ https://www.anm.gov.co/sites/default/files/decreto_2133_de_2016.pdf

²²⁷ https://www.anm.gov.co/sites/default/files/decreto_2133_de_2016.pdf

Regarding use of mercury in mining, as opposed to imports of mercury, the national government issued several circulars announcing a complete prohibition on the use of mercury in mining as of July 16, 2018.²²⁸ This date corresponds to the five-year period announced in Law 1658. Interestingly, at least from a legal perspective, there does not appear to be a separate regulation

More on Incentives

Resolution 91267, issued in 2024, helps to implement Articles 10 and 11 of Law 1658 as those Articles relate to incentives to reduce mercury usage in small-scale gold mining and for formalization of the same sector. Among other things, Resolution 91267 notes that the Directorate of Mining Formalization of the Ministry of Mines and Energy has “compile[d] statistical and historical information” in various categories, such as: “production, employment, investment,” and so on. Furthermore, the resolution defines “small-scale mining” as mining carried out by “[t]he natural or legal person who carries out mining activity individually, in groups, communities, solidarity economy organizations or associations, in an area of up to fifty (50) hectares.” Note, however, that Decree 1666 of 2016 defines subsistence mining as limited to surface mining without the use of machinery (essentially panning) and defines “small-scale mining” as limited to 150 hectares. The latter figure (150) appears to be inconsistent with the figure used in Resolution 91267. It is unclear whether this represents an error or amendment, implicit or otherwise, or if the differing definitions somehow apply for distinct purposes.

See also Resolution 631 of March 17, 2015, a general point-source water pollution regulation that covers, among others, the mining sector. It establishes a maximum permissible presence of mercury at 0.002 mg/L in superficial bodies of water tied to mining activity.

See also Decree 4134 of 2011, creating the National Mining Agency, a move toward better control and more formalization of the mining sector.

or decree establishing the prohibition on use. Instead, based on the circulars and ministry announcements, it appears the government’s position is that the ban derives directly from Article 3 of Law 1658. Regardless, research for this report has not uncovered any legal challenges to that position, and it appears to be well accepted that it is illegal to use mercury in mining as of July 16, 2018.²²⁹

Without discounting the importance of these regulatory measures—and they are indeed significant—one might ask whether Law 1658 has been fully implemented. Under a strict reading, Article 3 did not merely command the government to take measures to reduce mercury use, but actually proclaimed that Colombia would “eradicate the use of mercury throughout the national territory, in all industrial and production processes within a period not exceeding ten (10) years, and for mining within a maximum period of five (5) years.”²³⁰ If this means a legal obligation as to result (i.e., actually achieving complete or near-complete elimination of mercury use on the ground) as opposed to a legal obligation to make reasonable

efforts towards that end, then Colombia has arguably come up short.

Most striking on this point is the Constitutional Court’s Sentence C-275 of June 19, 2019 (upholding the ratification of the Minamata Convention). In its decision, the Constitutional Court discussed Law 1658 and its relevance to the Minamata Convention, stating as follows: “If the solution were as simple as banning the use of mercury, Law 1658 of 2013, which proposed

²²⁸ See, e.g., <https://archivo.minambiente.gov.co/index.php/noticias-minambiente/4021-entra-en-vigencia-prohibicion-del-mercurio-en-la-mineria-de-oro-en-colombia>.

²²⁹ See, e.g., <https://es.mongabay.com/2018/07/colombia-prohibe-uso-de-mercurio-en-mineria/>; <https://periodico.unal.edu.co/articulos/contaminacion-por-mercurio-sigue-sin-freno-por-cultura-minera-y-falta-de-fiscalizacion>.

²³⁰ Law 1658 of 2013, Art. 3.

completely eradicating this substance from gold mining by 2018 at the latest, would have been enough.”²³¹

The Constitutional Court essentially recognized the failure of Law 1658 to actually eradicate mercury in mining by 2018, noting that the date for eradication “has come and gone” without Colombia overcoming “this enormous challenge.”²³² The Court suggested that the problem, especially as relates to ASGM, is complex and requires “consensual solutions” with actors in the informal mining sector, noting the need for approaches that are “integral, environmentally responsible and sensitive to social contexts.”²³³ In this vein, the Court observed that “[p]erhaps the participation of communities and their plural visions make decision-making more complex, but without a doubt this will also enrich the final result[.]”²³⁴

This language may even suggest judicial reluctance to issue decisions enforcing the ban on mercury use in ASGM especially, perhaps, in cases where Indigenous and Afro-Colombian communities are the ones using mercury. (Note, however, that the Constitutional Court recently sided with Indigenous communities claiming harm from mercury by miners in Sentence T-106 of 2025, discussed in a text box below.) At the very least, the Constitutional Court seems to be suggesting that a prohibition regime is an incomplete answer to mercury use in ASGM and that, with the Minamata Convention as the backdrop, Colombia should work with the ASGM sector to improve the situation on the ground, where illegally imported mercury continues to be used.

In addition, the Constitutional Court refers to the need for “integral” solutions when working with “marginalized sectors of society,” favoring them against “punitive measures,” which should operate as a “last and extreme” resort.²³⁵ The Court also notes that “formalization plans . . . should not turn into ‘tortuous’ scenarios for small-scale miners,” but rather should represent “strategic alliances to prevent and control greater harm to the environment and human health.”²³⁶ In a similar vein, the Constitutional Court emphasized that Article 7 of the Minamata Convention does not mandate a prohibition scheme, as such, but rather the adoption of measures to “reduce, and, when viable, to eliminate the use of mercury” in the ASGM context.

The rest of the Court’s analysis seems to implicitly proceed from a recognition that the process of informed participation by the ASGM sector (especially as concerns Indigenous and Afro-Colombian communities) and broader concepts of environmental justice will lead to something short of outright, actual elimination of the use of mercury in ASGM.²³⁷ As discussed below, the relevant agencies seem to have adopted precisely the approach suggested by the Constitutional Court in the wake of this decision.

²³¹ Constitutional Court Sentence C-275 (June 19, 2019), para. 140.

²³² Constitutional Court Sentence C-275 (June 19, 2019), para. 140.

²³³ Constitutional Court Sentence C-275 (June 19, 2019), para. 140.

²³⁴ Constitutional Court Sentence C-275 (June 19, 2019), para. 140.

²³⁵ Constitutional Court Sentence C-275 (June 19, 2019), para. 139.

²³⁶ Constitutional Court Sentence C-275 (June 19, 2019), para. 139.

²³⁷ See *generally* Constitutional Court Sentence C-275 (June 19, 2019).

4. Could a Citizen Suit Force Compliance with Law 1658?

While the government and the Constitutional Court seem to have adopted the view that Law 1658 does not mandate, or cannot achieve, a truly mercury-free Colombia, it is at least worth considering whether outside actors could hold the government accountable to pursue a more literal interpretation of Law 1658 (e.g., through citizen suits).

The Colombian Constitution guarantees the right of all people to live in a healthy environment and also provides for community participation in decisions that may affect the environment.²³⁸ It also creates a duty on the state to protect areas of special ecological importance.²³⁹ In addition, it requires the state to guarantee sustainable development and to prevent and control environmental deterioration as well as to “impose legal sanctions and demand the reparation of harms caused.”²⁴⁰ In the context of the use of mercury in gold-mining, this could be read to create an obligation on the state to punish such use and to demand environmental reparation by actors who use mercury. Further, leveraging a related but distinct theory—the rights of nature—civil society has already won important matters in Colombia in cases seeking redress for rivers contaminated from illegal gold mining and illegal logging. (See text box, below, on “Rio Atrato and the Rights of Nature in Colombia”).

Perhaps more importantly to the present analysis, the Colombian Constitution gives all people the right to seek redress for violation of fundamental rights enshrined in the Constitution²⁴¹ and further gives all people the right to demand enforcement of any law or administrative act: “Any person may appeal to a judicial authority to enforce a law or administrative act. If the action is successful, the judgment will order the reluctant authority to perform the omitted duty.”²⁴² These constitutional provisions are potentially relevant given the Constitution’s creation of a right to live in a healthy environment and, more on point, the existence of Law 1658 of 2013 (with its mandate to completely “eradicate” the use of mercury in gold mining by 2018). The Constitution, then, may pave the way for citizen suits (and, indeed, suits by “any person”) to enforce both the Constitution and Law 1658 under this more literal interpretation. However, as noted in the discussion of Sentence C-275 (June 19, 2019), the Constitutional Court appears to recognize that Law 1658 is doing as much as it can and that, to achieve further progress within the ASGM sector, a more participative and negotiated process is in order.

²³⁸ Colombian Political Constitution, Art. 79.

²³⁹ Colombian Political Constitution, Art. 79.

²⁴⁰ Colombian Political Constitution, Art. 80.

²⁴¹ Colombian Political Constitution, Art. 86.

²⁴² Colombian Political Constitution, Art. 87.

It is unclear whether any citizen or group has tried to bring a suit against the government for failure to comply with Law 1658's "eradication" clause. Whether such a suit would be successful is unclear given that there are other rights that might conflict—or be argued to conflict—with enforcement of Law 1658 under this more literal interpretation. (Again, language in Sentence C-275 suggests that the Constitutional Court might look amiss at an effort to aggressively enforce the mercury prohibition against ASGM actors if not preceded by a fresh round of socialization and

Rio Atrato and the Rights of Nature in Colombia

Unlike other countries in the region (*e.g.*, Bolivia and Ecuador), Colombia's Constitution does not have a written provision on the "rights of nature." Nevertheless, the "rights of nature" concept is quickly gaining traction in Colombia through the courts, in cases brought by or with IPLCs.

In 2016, Colombia's Constitutional Court issued a decision finding that the Atrato River is a holder of its own rights, introducing the "rights of nature" concept to Colombian jurisprudence in dramatic fashion. The Atrato River and its tributaries have long suffered from illegal gold mining and other sources of contamination. This activity has not only impaired the watershed and its flora and fauna; it has also had a dramatic impact on local communities and indigenous peoples, affecting livelihoods, food sovereignty, and cultural practices. Against this backdrop, the Constitutional Court canvassed the Constitution en route to finding that several of its rights provisions (including the right to a healthy environment) effectively led to the "rights of nature." The upshot, according to the court, was that the Atrato River had an intrinsic right to "protection, conservation, maintenance, and restoration."

By way of remedy, the court ordered the government: (1) to choose a body to serve, alongside a representative of the local indigenous communities, as the legal representative of the rights of the river; (2) to form a "commission of guardians" that includes the government and community representatives—as well as an advisory board made up of NGO, academic, and other representatives—with the task of ensuring the "protection, recovery, and due conservation" of the river; (3) to develop an action plan to eliminate illegal mining throughout the watershed; and (4) to design and implement a plan to decontaminate the watershed, recover its ecosystems, and avoid additional damage through measures such as reestablishing the flow of the river, eliminating sediment build-ups formed through mining, and reforesting the areas affected by mining (both legal and illegal).

While this all sounds like good news, news articles raise questions as to the extent to which the government has complied with the court's order—or, if the government has complied, whether such compliance has yielded true improvements from an environmental standpoint. *See, e.g.,*

<https://www.swissinfo.ch/spa/el-atrato%2C-un-río-con-derechos-lastimados-pese-a-histórico-fallo-en-colombia/88146757><https://elbaudoseno.com/el-río-atrato-casi-9-años-después-de-una-sentencia-histórica/>

stakeholder input.) Nevertheless, it would be worth exploring whether such citizen suits might be available in the Law 1658 context.

It is also worth noting that Law 1658 creates an enforcement mechanism for itself—or, more accurately, a provision that contemplates adverse consequences if responsible authorities fail to carry out the law's terms. Specifically, Article 14 provides for sanctions against government functionaries that fail to carry out their responsibilities under Law 1658.²⁴³ This provision could provide a separate lever for advocacy designed to pressure the government to enforce Article 3 under a stricter or more literal interpretation. Again, it is unclear if anyone has tried to demand enforcement of this provision. As to the government itself acting under Article 14, desk research failed to uncover any evidence suggesting

²⁴³ Law 1658 of 2013, Art. 14 (citing Law 734 of 2002).

that the government has sanctioned public officials for failure to implement Law 1658.²⁴⁴ This may suggest—and in fact probably does suggest—that the government believes it has complied with Law 1658 through the decree banning mercury imports in mining as of 2017 and the further ban on use of mercury in mining starting in 2018.

5. Additional Enforcement Mechanisms—Administrative and Criminal Penalties

Colombian law provides for administrative and criminal sanctions against individuals and legal entities engaged in illegal mining. First, as noted above, Law 1658 includes a provision for confiscation of mines and equipment with regulations regarding the same to be created by the Ministry of Mines and Energy.²⁴⁵

At a more fundamental level, the 2001 Mining Code provides for punishment under the criminal code, as well as confiscation of equipment and minerals, for illegal exploration and exploitation (with an exception for panning operations).²⁴⁶ Furthermore, the Mining Code provides for a prohibition on receiving future mining licenses in cases where illegal mining has been proven.²⁴⁷

Finally, Article 332 of Law 599 of 2000 (the current Criminal Code) provides for severe penalties for illegal mining including long prison terms (up to 12 years) and large fines where such mining was done “by means capable of causing serious damage to natural resources or the environment.”²⁴⁸ Likewise, Article 334A contemplates additional penalties for environmental pollution due to mining, “including imprisonment of five (5) to ten (10) years” and, again, large fines.²⁴⁹

In the ASGM sector, miners are potentially at risk of criminal sanctions under both Article 332 and Article 334A. In fact, liability under both Articles seems possible even if the operation is conducted without mercury; with mercury, liability should easily attach assuming an adequate factual investigation and the absence of procedural irregularities.

6. Colombia’s Main Formalization Regime—Law 2250 of 2022

Law 2250 of 2022 “establishes a special legal framework for mining legalization and formalization.”²⁵⁰ The law defines “traditional mining” as mining activities that “exploit mines” owned by the state “without a title registered with the National Mining Registry” and that can prove at least ten years of continual use.²⁵¹ Significantly, the ten-year period is measured, looking backward, from the date Law 2250 took effect (i.e., July 11, 2022). The timing provision should

²⁴⁴ Regarding other mechanisms of enforcement by citizens, *see also* Chapter XXVII of the Mining code on “Amparo Administrativo” (administrative protection). Any person can register a complaint with the local mayor regarding illegal mining (mining without a title registered with the National Mining Registry), and the mayors are obligated to suspend mining operations. Law 685 of 2001 (Mining Code), Chapter XXVII.

²⁴⁵ Law 1658 of 2013, Art. 13.

²⁴⁶ Mining Code of 2001, Ch. XVII, Arts. 159-161.

²⁴⁷ Mining Code of 2001, Ch. XVII, Arts. 162-163.

²⁴⁸ Law 599 of 2000, Art. 332.

²⁴⁹ Law 599 of 2000, Art 334A.

²⁵⁰ Law 2250 of 2022, p. 1.

²⁵¹ Law 2250 of 2022, Art. 2.

therefore prevent an ever-expanding class of “traditional miners” able to continuously claim coverage under the law.

Law 2250 provides for a route to legalization and formalization in which informal, traditional miners are required to request formalization; if they fail to do so, they may be forced into formalization by the government.²⁵² Miners who wish to claim status as “traditional miners” must submit proof of that status.²⁵³ They only get one chance to do this. If the government has ordered them to begin formalization, they are given 90 days to begin the process. Failure to do so results in a legal “understanding” that they have no intention to formalize, opening such persons to exposure to penalties. On the other hand, informal traditional miners who begin the process benefit from a limited but important immunity provision during the pendency of the process, shielding them to a large extent from prosecution for illegal mining.²⁵⁴

In addition to the incentive provided by the partial immunity provision, the formalization process

No Formalization for Miners Operating in Protected Areas

In an extremely important provision, Article 4 of Law 2250 clarifies that the process of formalization (which, again, is essentially synonymous with legalization) is not available for miners operating in protected areas and other geographical spaces incompatible with mining. Specifically, Article 4 states as follows: “In no case may [the government] authorize the carrying out of activities [associated with mining] in areas that integrate the National System of National Natural Parks, Regional Natural Parks, Protected Forest Reserve Zones, páramo ecosystems, and Ramsar wetlands.”

includes the concession of licenses to previously unlicensed miners, especially focusing on ASGM miners who would not normally be eligible for a regular mining license.²⁵⁵ Law 2250 further provides for funding to support miners in the formalization process, including technical assistance,

investigation, technology transfers, improvement of social and economic conditions of subsistence miners, and more.²⁵⁶ The law also provides for controls on excess production²⁵⁷ and controls on mineral commercialization.²⁵⁸ There are special provisions for the purchase, sale, and export of precious metals, including gold.²⁵⁹

While Law 2250 does not address the use of mercury directly, the process of formalization and the obligations that follow from that process are likely to lead to greater control of mercury as compared to an essentially unregulated sector in many current ASGM operations.²⁶⁰

²⁵² Law 2250 of 2022, Art. 4.

²⁵³ Law 2250 of 2022, Art. 4.

²⁵⁴ Law 2250 of 2022, Art. 4.

²⁵⁵ See Law 2250 of 2022, Arts. 5 and 6.

²⁵⁶ Law 2250 of 2022, Art. 8.

²⁵⁷ Law 2250 of 2022, Art. 14.

²⁵⁸ Ley 2250 de 2022, Art. 15.

²⁵⁹ Law 2250 of 2022, Art. 17.

²⁶⁰ In addition, the Ministry of Mining and Energy has adopted a roadmap for implementation of Law 2250 in its Single Mining Legalization and Formalization Plan of 2022. Further, in its Resolution 90719 of 2014, the Ministry of Mines and Energy formally adopted a National Policy for the Formalization of Mining. The Resolution provides “The Ministry of Mines and Energy will design the necessary instruments for miners to register in the Formalization Program.”

7. Special Provisions for Indigenous and Afro-Colombian Communities

Colombian law includes a number of special measures for Indigenous and Afro-Colombian communities, including measures to incentivize formalization. These measures include both obligations under ILO Convention 169, discussed in more detail above, and national law provisions that complement (and in some cases implement) the ILO treaty obligations. Notably, the Colombian Constitutional Court has recently shown a substantial interest in ensuring these rights are upheld in the mercury context. (See text box at right.)²⁶¹

- **Recap of ILO Convention 169**

As a Party to ILO Convention 169, Colombia has special duties to Indigenous communities. In addition to requiring that the state “consult the peoples concerned . . . whenever consideration is being given to legislative or administrative measures which may affect them directly,”²⁶² ILO Convention 169 recognizes the right of indigenous peoples to “participate in the use, management and conservation of [natural] resources” and, in the case of state-owned mineral rights, requires the establishment of “procedures through which [the state] shall consult [indigenous] peoples[.]”²⁶³

- **Law 685 of 2001 (Mining Code)**

In this vein, Law 685 of 2001 (a.k.a., the Mining Code) has several important provisions. First, Article 5 establishes that, with few exceptions, the state is the sole and exclusive owner of all minerals in the country.²⁶⁴ This appears to include minerals found in Indigenous and Afro-Colombian communities. That said, the Mining Code provides for preferential treatment for Indigenous communities to obtain a mining license (and thus move into formalization) in their territories.²⁶⁵ The same preferential treatment is granted to Afro-Colombian communities.²⁶⁶

Sentence T-106 of 2025

In March 2025, the Constitutional Court of Colombia issued a decision in litigation brought by several leaders of indigenous communities in the Amazonian region of *Jaguaires del Yurupari*. The indigenous representatives claimed that the government’s failure to adequately control illegal and informal gold mining using mercury violated the communities’ fundamental rights to enjoy their territories, to a healthy environment, to food sovereignty and security, and to cultural identity, among others. The court agreed with the communities. Among other remedies, the court ordered the Colombian government to initiate dialogues to forge a shared action plan in consensus with the affected communities. According to newspaper reports, the ruling favors approximately 30 indigenous communities in the Colombian Amazon.

Note that while Indigenous and Afro-Colombian communities receive preferential treatment in obtaining a mining license, they are free to contract with third parties to develop their mining activities.²⁶⁷ On the one hand, Indigenous and Afro-Colombian communities are encouraged by

²⁶¹ <https://es.mongabay.com/2025/05/colombia-corte-constitucional-ordeno-proteccion-pueblos-amazonicos-contaminacion-mercurio/>; <https://www.alcaldiabogota.gov.co/sisjur/normas/Norma1.jsp?i=178197>

²⁶² ILO Convention No. 169 (Indigenous and Tribal Peoples Convention, 1989), Art. 6.

²⁶³ ILO Convention No. 169 (Indigenous and Tribal Peoples Convention, 1989), Art. 15.

²⁶⁴ Law 685 of 2001 (Mining Code), Art. 5.

²⁶⁵ Law 685 of 2001 (Mining Code), Art. 124.

²⁶⁶ Law 685 of 2001 (Mining Code), Art. 133.

²⁶⁷ Law 685 of 2001 (Mining Code), Arts. 126 and 135, respectively.

the Mining Code to obtain mining licences; however, there is a risk that outside actors could exploit the Code's allowance for third parties to mine in these communities by obtaining permission to do so.

Nevertheless, the Mining Code promotes community development of mining, including measures to “promote the legalization, organization, and capacity-building” of community associations.²⁶⁸ This provision directly addresses the problem of formalization in said communities. Moreover, the Mining Code refers to “traditional operations” and establishes a priority to formalize mining operations that have been traditionally carried out in communities.²⁶⁹

While the Mining Code moves these communities toward formalization, it also permits panning operations without the need for a regular mining license. Such operations need only notify the local mayor and, if done on private property, obtain the authorization of the property owner.²⁷⁰

- **Law 70 of 1993 (on Afro-Colombian Communities' Rights)**

In Chapter V of Law 70 of 1993 the Colombian government recognizes certain mining rights for Afro-Colombian peoples. Article 26 provides for special treatment of “mining areas of black communities in which the exploration and exploitation of non-renewable natural resources must be carried out under special technical conditions regarding the protection and participation of such black communities.”²⁷¹ Article 27 provides for a “right of priority” for such communities with respect to mining.²⁷² Specifically, the Ministry of Mines and Energy is authorized to issue a “special exploration and exploitation license in mining areas of black communities.”²⁷³ Article 28 provides for Joint Mining Zones where lands could be claimed as both Indigenous and Afro-Colombian.

- **Decree 1396 of 2023 (Regulation under Chapter V of Law 70 of 1993)**

Decree 1396 of 2023 provides regulations on Chapter V of Law 70 of 1993 (related to mining rights of Afro-Colombian communities). Its objective is “the promotion and development of mining activities by Black, Afro-Colombian, Raizal and Palenquera communities.”²⁷⁴ The decree provides procedures for the recognition and regulation of mining areas in Afro-Colombian communities. However, there are no provisions that specifically deal with gold mining or the use of mercury.

8. Additional Government Actions, Including Sectoral Plans

Complementing Law 1658 and related Decrees, the Colombian government has been busy making a number of plans and policies that are designed to facilitate the reduction and elimination of mercury use. These are worth consideration as they provide a window into what the government is doing in this area. Most important is the Single National Mercury Plan of 2018.

²⁶⁸ Law 685 of 2001 (Mining Code), Arts. 249 and subsequent.

²⁶⁹ Law 685 of 2001 (Mining Code), Arts. 257.

²⁷⁰ Law 685 of 2001 (Mining Code), Arts. 155 and 156. *See also* Art. 158, addressing mining in Afro-Colombian communities: only members of the community may engage in panning.

²⁷¹ Law 70 of 1993, Ch. V, Art. 26.

²⁷² Law 70 of 1993, Ch. V, Art. 27.

²⁷³ Law 70 of 1993, Ch. V, Art. 27.

²⁷⁴ Decree 1396 of 2023, Art. 1.

- **Single National Mercury Plan (PUNHg) (ver. 2018)**

The PUNHg (Single National Mercury Plan ver. 2018) is part of the development of the regulatory framework mandated by Law 1658 of 2013. It is worth noting that the most recent version of this plan is from 2018 (the year that mercury use in mining was officially prohibited).

With this in mind, Colombia's Single National Mercury Plan (PUNHg) provides insight into where the country is headed as concerns the reduction and elimination of mercury use. The PUNHg notes that its mission involves "the gradual and progressive elimination of mercury in mining and industrial processes throughout the country."²⁷⁵ As such, the relevant ministries are signaling the continued goal to eliminate mercury use in mining and industry, albeit in a "gradual and progressive" manner.

The PUNHg states that "by 2023 [it] will be recognized . . . as the instrument of intersectoral articulation [of] the compliance of the goals of progressive reduction and elimination of the use of mercury in all national territory, within the framework of that established in Law 1658 of 2013 and international agreements in force in the country."²⁷⁶

The PUNHg proposes a series of programs to advance its objectives. These include a Program of Institutional Strengthening, Program of Management, and Program of Plan Follow-up and Evaluation. The PUNHg also calls for further studies and investigations associated with mercury.²⁷⁷ Finally, although the PUNHg set forth a plan to create implementing regulations related to each stage of the mercury cycle by all the relevant ministries with a deadline of December 2018,²⁷⁸ this investigation has revealed few implementing regulations. This may suggest that relevant actors see further regulations as unnecessary following the 2018 prohibition on the use of mercury in the mining sector.

Relatedly, the PUNHg sets forth additional goals focused on: (1) follow-up on mercury cycle stages; and (2) articulating efforts to develop projects and initiatives focused on the elimination of mercury as set out in Law 1658, and other efforts. These goals generally have a due date of 2023. But, again, the investigation for this report was unable to identify later documents associated with these initiatives.

- **Additional Sectoral Policy Work**

As noted above, the PUNHg mandates plans and policy work by relevant ministries. In many cases, this planning has occurred. A sampling follows here.

- **Sectoral Environmental Mercury Action Plan (PASAHg) (ver. 2018)**

²⁷⁵ Single National Mercury Plan (PUNHg) ver. 2018, p. 12.

²⁷⁶ Single National Mercury Plan (PUNHg) ver. 2018, p. 12.

²⁷⁷ Single National Mercury Plan (PUNHg) ver. 2018, p. 16.

²⁷⁸ Single National Mercury Plan (PUNHg) ver. 2018, p. 17.

As with the cross-ministry effort to develop the PUNHg, the Ministry of Environment has developed a Mercury Environmental Sectoral Action Plan (the latest also dating from 2018) in an effort to, *inter alia*, comply with Law 1658 of 2013.²⁷⁹ This plan is divided into various programs, most related to planning inter-agency organizational actions rather than regulations as such. When it comes to actual implementing regulations related to, for example, the stages of the mercury cycle, goal deadlines are established (in this case, December 2019), but this investigation has revealed no finalized implementing regulations.

- **Strategic Sectoral Plan for the Elimination of the Use of Mercury (Ministry of Mines and Energy) (ver. 2016)**

Likewise, the Ministry of Mines and Energy has developed a plan that focuses on four axes of change: “These axes are oriented toward improving inter-institutional coordination []; toward preventive and technological education with ongoing technical assistance for the entire population involved; toward effective and efficient communication; and toward the generation of research projects that comprehensively facilitate ongoing control and monitoring, based on constant communication that allows for reporting on all progress, achievements, and results obtained.”²⁸⁰

- **Sectoral Plans from Other Ministries**

In addition, various other ministries have developed plans. For example, the Ministry of Transportation has issued a Strategic Sectoral Plan for the Elimination of Mercury in Colombia. Among other things, it deals with chain of custody issues tied to the transportation of mercury. Again, this plan sets out goal deadlines for issuing regulations but does not issue the regulations themselves.²⁸¹ Thus, from a legal perspective, it would seem this and other plans like it do not legally bind either the government or the regulated sector (here, transportation).

- **Additional Actions by the Ministry of Mines and Energy**

Apart from sectoral plans, the Ministry of Mines has taken further actions, including fieldwork, methodological guidance for gold mining without mercury, and the development of a National Mining Policy. Two of the more important documents from the Ministry of Mines are discussed immediately below.

- **“Methodological Guide for Improving Gold Production Without the Use of Mercury”**

The Ministry of Mines has made some significant headway in developing guidance for goldmining without the use of mercury. While not implementing regulations, this kind of work does provide added value and moves toward the “gradual and progressive” reduction and elimination of the use of mercury in gold mining. The Ministry’s publication “Methodological Guide for Improving Gold Production Without the Use of Mercury. Remedios (Antioquia)” (*Guía metodológica para el mejoramiento productivo del beneficio de oro sin el uso de mercurio. Remedios (Antioquia)*) is

²⁷⁹ See generally Mercury Environmental Sectoral Action Plan (PASAHg) ver. 2018.

²⁸⁰ Strategic Sectoral Plan for the Elimination of the Use of Mercury (Ministry of Mines and Energy) (ver. 2016), p. 19.

²⁸¹ Strategic Sectoral Plan for the Elimination of Mercury (Transportation Sector).

one such example.²⁸² This publication is aimed at miners, “especially those that do not fully comply with national and international standards and mandates aimed at eliminating the use of mercury in the mining industry.”²⁸³ Thus, the guide has particular relevance for ASGM miners. The guide outlines several strategies, including: (1) “support for the regularization of mining activities”; (2) “technical assistance”; (3) “best practices for promoting small-scale mining”; (4) “dialogue and coordination with regional governments”; (4) “participation and dialogue mechanisms to achieve mutual trust among stakeholders in the mining value chain”; and (5) “support to improve living conditions.”²⁸⁴ Although the guide is based on work in one region, it has instructional value for eliminating the use of mercury across the entire country’s mining sector.

○ **“Colombian Mining Policy: Foundations for the Mining of the Future”**

In 2016 the Ministry of Mines issued a “Colombian Mining Policy” document articulating a vision for mining in the not-so-distant future. While maintaining the character of a broad-based document, the publication advances policy related to the elimination of mercury as envisioned in Law 1658.²⁸⁵

In the Colombian Mining Policy document, the Ministry of Mines notes that “[f]or small-scale and subsistence mining” it has already carried out several actions aimed at formalization of ASGM and the elimination of the use of mercury. These include: (1) “technical assistance to 1,405 small-scale mining operations,” (2) “five pilot programs for formalization of ASGM, including the formalization of 1,180 miners,” and (3) “for the elimination of the use of mercury in mining activity . . . integral accompaniment [with] 24,000 miners” including those engaged in panning.²⁸⁶

The takeaway here is that the Ministry of Mines has not been sitting on its hands, having carried out activities to advance the gradual and progressive elimination of the use of mercury and having put forward a national mining policy document that contemplates further actions going forward.

9. Closing Thoughts

Colombia has made significant efforts to reduce and, eventually, eliminate the use of mercury in gold mining. Its agencies continue to work in this area to advance the agenda. If Colombia has not been able to live up to the most ambitious aspects of Law 1658 of 2013—in the sense that it has not entirely “eradicated” the use of mercury in mining—it has satisfied many of the most important regulatory steps necessary to that vision. Colombia has prohibited mercury imports for mining as of 2017 and prohibited the use of mercury in mining as of 2018. Colombia has also made important efforts on formalization, although the degree of success here is more difficult to gauge.

Going forward, civil society wishing to see more improvement (recognizing the still rampant illegal use of mercury in gold mining in Colombia) have a decision to make: whether to be adversarial

²⁸² Methodological Guide for Improving Gold Production Without the Use of Mercury. Remedios (Antioquia), <https://libros.sgc.gov.co/index.php/editorial/catalog/book/61>.

²⁸³ Methodological Guide for Improving Gold Production Without the Use of Mercury. Remedios (Antioquia), p. 8.

²⁸⁴ Methodological Guide for Improving Gold Production Without the Use of Mercury. Remedios (Antioquia), p. 14.

²⁸⁵ Colombian Mining Policy: Foundations for the mining of the future (2016).

²⁸⁶ Colombian Mining Policy: Foundations for the mining of the future (2016), p. 26 (emphasis added).

or facilitative—or a combination of both (employing sticks and carrots in tandem). Although the government appears generally committed to the cause, civil society is a critical partner to realizing maximum progress.

Given its previous and ongoing efforts, the wisest and most feasible approach may be to accompany the government with policy, technical, and financial support for its efforts without the need to pass any new major legislation. Colombia's laws, for the most part, seem relatively sound. Of course, civil society could also focus on direct collaborations with IPLC groups. If such groups engage in gold mining with mercury, civil society could help them transition away from these harmful techniques while informing them of the legal and health risks that inhere in continuing to use mercury. At the same time, for IPLC grounds not engaged in but harmed by ASGM mining using mercury, civil society could help such groups to reduce exposure and perhaps bring litigation or other pressure campaigns designed to shut down upstream contaminating operations.

D. Brazil

Home to nearly 60% percent of the Amazon basin and its namesake rainforest, Brazil is blessed with abundant tropical forests, rivers, and alluvial gold deposits. But this blessing is also a curse.

Experts estimate that over 50% of Brazilian gold is illegally sourced.²⁸⁷ Rising gold prices in recent years have led to a significant expansion of illegal gold mining in the Brazilian Amazon, encroaching on protected areas and indigenous communities, and contributing to deforestation. Satellite data “show that the annual rate of clearing due to illegal mining activities . . . increased more than 90% from 2017 to 2020,” exceeding 100 square kilometers of mining-related deforestation in 2020 alone.²⁸⁸

As in Colombia, vulnerable communities have borne the brunt of these crimes, with the Yanomami people offering a particularly tragic case-study. For many years, “illegal miners have looted Yanomami lands due to its large gold deposits, and the rivers that allow for the easy transport of gold from the mines.”²⁸⁹ This has led to shocking increases of disease, pollution, hunger, conflict, forced labor, and more.²⁹⁰ It has further become a regional security issue as illegal miners and organized crime groups move back and forth between Brazil, Colombia, Venezuela, and Guyana in response to enforcement operations.²⁹¹

In more positive news, measures taken throughout 2023 led to a 20% drop in Brazilian gold exports.²⁹² (Note, however, that this number may not reflect overall reductions in gold exports, as

²⁸⁷ <https://www.npr.org/2023/11/15/1213130035/brazils-new-leftist-government-attempts-to-crack-down-on-illegal-gold-mining>

²⁸⁸

<https://www.researchgate.net/publication/350123605> The outbreak of illegal gold mining in the Brazilian Amazon boosts deforestation

²⁸⁹ <https://insightcrime.org/news/illegal-gold-mining-continues-threatening-yanomami-land-in-brazil/>

²⁹⁰ <https://insightcrime.org/news/illegal-gold-mining-continues-threatening-yanomami-land-in-brazil/>;

<https://www.reuters.com/investigates/special-report/brazil-environment-yanomami/>;

<https://e360.yale.edu/features/brazil-yanomami-mining-malaria-malnutrition-lula>

²⁹¹ <https://insightcrime.org/news/illegal-gold-mining-continues-threatening-yanomami-land-in-brazil/>

²⁹² <https://news.mongabay.com/2024/04/brazils-illegal-gold-trade-takes-a-hammering-but-persists-underground/>

experts warn that shifts to illegal trade are difficult to measure.)²⁹³ At the enforcement level, the Brazilian Federal Police formed a special division exclusively dedicated to environmental crimes, which went on to conduct an average of one raid per week against illegal gold miners over the course of 2023.²⁹⁴ For its part, IBAMA, Brazil's lead environmental agency, seized or destroyed nearly 2000 mining machines.²⁹⁵ Regulatorily, in July 2023 the government introduced mandatory electronic invoices for gold trading through Normative Instruction RFB No. 2.138,, replacing the paper system that has facilitated fraud and frustrated central monitoring efforts.²⁹⁶ According to satellite imagery tracking deforestation associated with wildcat gold mining, the rate of deforestation from this activity dropped 43% in 2023.²⁹⁷ Other promising developments include cross-board enforcement cooperation with Colombia²⁹⁸ and, in the context of prosecutions, the deployment of a new tool (known as the Mining Impacts Calculator, developed through a partnership between the Conservation Strategy Fund and Brazil's Public Prosecutor's Office), to calculate the harm flowing from illegal gold mining, enhancing the ability of prosecutors to seek reparations and advocate for higher criminal penalties based on environmental harm as an aggravating circumstance.²⁹⁹

In 2023, IBAMA destroyed 600 dredgers and 150 backhoes in riparian areas.³⁰⁰ But mercury continues to flow into the country in alarming quantities. The primary source of this mercury is Bolivia.³⁰¹ Smugglers bring mercury across the porous border, fueling ongoing demand in Brazil.³⁰² Indeed, Brazilian (and Peruvian) demand—combined with those countries' admirable efforts to reduce legal mercury imports—has led to an incredible spike in Bolivian imports of mercury. Although Bolivia itself has major issues with gold mining using mercury, the import numbers belie the notion that all or even most of this mercury is imported for domestic uses. Between 2016 and 2021, Bolivia “imported more than 1,100 tons” of mercury.³⁰³ In that same period, “Brazil imported around 100 tons,” or less than 10% of the amount imported by Bolivia,

²⁹³ *See id.*

²⁹⁴ <https://news.mongabay.com/2024/04/brazils-illegal-gold-trade-takes-a-hammering-but-persists-underground/>

²⁹⁵ <https://news.mongabay.com/2024/04/brazils-illegal-gold-trade-takes-a-hammering-but-persists-underground/>

²⁹⁶ Instrução Normativa (IN) RFB nº 2.138, de 29 de março de 2023,

<https://normasinternet2.receita.fazenda.gov.br/#/consulta/externa/129816>; *see also*

<https://www.gov.br/fazenda/pt-br/assuntos/noticias/2023/abril/receita-federal-cria-nota-fiscal-eletronica-do-ouro-ativo-financeiro-para-combater-comercio-ilegal>; <https://news.mongabay.com/2024/04/brazils-illegal-gold-trade-takes-a-hammering-but-persists-underground/>

²⁹⁷ <https://news.mongabay.com/2024/04/brazils-illegal-gold-trade-takes-a-hammering-but-persists-underground/>

²⁹⁸ <https://www.occrp.org/en/daily/18290-colombia-and-brazil-target-illegal-gold-mining-in-the-amazon>

²⁹⁹ <https://news.mongabay.com/2024/03/amazon-prosecutors-get-sharper-impact-tool-to-charge-illegal-gold-dealers/>; <https://miningcalculator.conservation-strategy.org>

³⁰⁰ <https://news.mongabay.com/2024/07/report-reveals-widespread-use-of-smuggled-mercury-in-amazon-gold-mining/>

³⁰¹ <https://news.mongabay.com/2024/07/report-reveals-widespread-use-of-smuggled-mercury-in-amazon-gold-mining/>; <https://insightcrime.org/investigations/poisonous-mercury-trade/>

³⁰² For more information on the Bolivia-to-Brazil pipeline, see <https://infoamazonia.org/en/storymap/the-illegal-route-of-mercury-from-bolivia-to-brazil%E2%99%A2>

³⁰³ <https://insightcrime.org/investigations/poisonous-mercury-trade/>

despite Brazil having a population nearly twenty times the size of Bolivia's.³⁰⁴ Temporally, Bolivia's declared imports of mercury have spiked just as Brazil's and Peru's have plummeted.³⁰⁵ The explanation is, of course, smuggling to gold miners in Peru and Brazil who continue to use mercury.³⁰⁶

1. Introduction to Law and Policy Response

Brazil's approach to mercury is somewhat unique, at least in comparison to the other countries studied in this report, in the sense that Brazil has implemented a sophisticated system that essentially treats mercury as a controlled substance. Under a 2024 law, Brazil seems to have embraced the call of the Minamata Convention in almost all respects (not simply those focused on mercury in ASGM). And, although Brazil has not gone so far as to prohibit the use of mercury in gold mining, it has created a regulatory landscape where legally using mercury for this purpose should be very difficult and, over time, almost impossible. Finally, as mentioned above, Brazil's renewed commitment to the Minamata Convention also augurs well for the likelihood of a strong NAP before too long.

2. Importation of Mercury and Domestic Commerce in Mercury, in General

Brazilian law regarding the importation of mercury suggests a policy vision to reduce and tightly control imports of mercury, thereby reducing the availability of mercury for use in gold mining. Significantly, however, Brazilian law does not prohibit the use of mercury in gold mining as such.

Since 1989, Brazilian law has required registration of mercury importers, producers, and traders.³⁰⁷ Specifically, Article 1 of Decreto No 97.634 (1989) provides that registration is a "necessary condition" for importing, producing, or trading in mercury.³⁰⁸ This decree further tasks IBAMA with administering the registration system and, prior to importation, requires registered importers to notify IBAMA of the importation; domestic mercury traders (i.e., sellers and re-sellers) are similarly required to liaise with IBAMA by furnishing the agency with a "Metallic Mercury Operations Document."³⁰⁹

Building on the basic registration and tracking scheme of the 1989 decree, Brazil has since taken significant steps to further tighten control of imports and domestic commerce in mercury. According to a national expert interviewed for this report,³¹⁰ current national policy on the matter centers around "strangling" or zeroing-out mercury imports and thus depriving gold miners of this input. Although this policy vision—and the laws implementing it—do not contemplate a prohibition

³⁰⁴ <https://insightcrime.org/investigations/poisonous-mercury-trade/>

³⁰⁵ <https://insightcrime.org/investigations/poisonous-mercury-trade/>

³⁰⁶ <https://insightcrime.org/investigations/poisonous-mercury-trade/>

³⁰⁷ Decreto No 97.634, de 10 de abril de 1989, https://www.planalto.gov.br/ccivil_03/decreto/1980-1989/d97634.htm

³⁰⁸ Decreto No 97.634, de 10 de abril de 1989, https://www.planalto.gov.br/ccivil_03/decreto/1980-1989/d97634.htm

³⁰⁹ Decreto No 97.634, de 10 de abril de 1989, https://www.planalto.gov.br/ccivil_03/decreto/1980-1989/d97634.htm

³¹⁰ Interview with Professor Maria Elena Crespo López (March 20, 2025).

on the use of mercury in gold mining, the “strangulation” of mercury imports in theory should leave miners with little mercury to work with.

As concerns legal specifics, a 2024 IBAMA regulation (IBAMA Normative Instruction No. 26-2024) contains many of the core rules one would expect in pursuit of this “strangulation” policy.³¹¹ First, building on the less demanding registration system established in 1989, the 2024 regulation establishes a more robust, digital tracking system for importers and domestic traders. Specifically, importers and traders are required to:

- (1) obtain a “Metallic Mercury Operations Document” prior to a trade in metallic mercury, following the requesting party’s establishment of eligibility or “qualification” for this critical document;
- (2) keep the Metallic Mercury Operations Document with the metallic mercury cargo under their responsibility at all times;
- (3) confirm, in a computerized system, the actual quantity of mercury acquired through a commercial transaction or transfer; and
- (4) declare environmental information on the use, storage and environmentally appropriate disposal of mercury in a computerized system.³¹²

Buyers and users, for their part, are only able to purchase and/or use mercury for which a Metallic Mercury Operations Document has been issued, and they must carry the Metallic Mercury Operations Document with them during all transport phases and present the same to authorities upon request.³¹³ As something of a cross-check on the sales declaration made by a trader, buyers and users must also confirm, in a computerized system, the quantity of mercury purchased.³¹⁴ Importantly, buyers and users must also conform to the uses for which the Metallic Mercury Operations Document was issued.³¹⁵ As a matter of regulatory design, this latter requirement, while perhaps obvious, works as a check against diversion of mercury for unauthorized purposes.

Next, and more substantively, the 2024 regulation significantly restricts—but does not entirely prohibit—imports and sales of mercury for use in mining. In particular, Article 9 provides that “import, sale and resale of metallic mercury to people engaged in mining activities is prohibited,” but then goes on to create an important exception, stating that this provision “shall not apply in the case of the sale or resale of metallic mercury to the holder of a mining permit . . . for the extraction of gold using metallic mercury.”³¹⁶ Reading these clauses together yields the following construction: *Imports* of mercury for mining, regardless of mining type, are entirely prohibited. As regards *sale and resale*, however, mercury can be sold to a person or entity authorized to engage

³¹¹ Without meaning to imply the existence of a legal problem, research was unable to identify what law or laws provide IBAMA with the authority to issue this Instructive.

³¹² IBAMA Normative Instruction No. 26-2024, Art. 4.

³¹³ IBAMA Normative Instruction No. 26-2024, Art. 5.

³¹⁴ IBAMA Normative Instruction No. 26-2024, Art. 5.

³¹⁵ IBAMA Normative Instruction No. 26-2024, Art. 5.

³¹⁶ IBAMA Normative Instruction No. 26-2024, Art. 9.

in gold mining. And, apart from their authorization to engage in gold mining, Article 10 requires all users of mercury (as well as importers, traders, etc.) to be authorized by IBAMA.³¹⁷

On balance, then, because the import of mercury for gold mining is prohibited—and because imports for other uses are tightly controlled, and “Brazil is not a mercury-producing country”³¹⁸—mercury available for gold mining should, if all goes according to the law, slowly dry up. This is the government’s strategy; and, for a strategy that ends short of outright prohibition on using mercury in gold mining, it is admirable.

3. The Mercury Trade in Practice

In practice, the policy enshrined in IBAMA Normative Instruction No. 26-2024—to tightly control imports, sales, and purchases, and to cut off mercury imports (if not sales) for gold mining—finds itself swimming against the current of massive contraband imports and unregulated use. In an interview for this report, Professor Maria Elena Crespo López, a leading expert in the field, stated that “the law is good, but the reality is different.”³¹⁹ She acknowledged that official, legal mercury imports have decreased dramatically. On the other hand, she noted that Brazil continues to produce and export significant amounts of gold, implying that gold miners using mercury are, in fact, still able to secure this key feedstock in abundance.

A raft of reports and articles, written by everyone from academics to investigative journalists and NGOs, agree that mercury remains exceedingly common in Brazil. As explained earlier, the consensus is that mercury flows into the Brazilian Amazon with relative ease across the border from Bolivia, where imports have skyrocketed in recent years.³²⁰ Although interdiction against illegal mining operations have been more energetic under the Lula administration—and, in another positive data point, 2023 saw a 20% drop in Brazilian gold exports³²¹—the black market trade and use of mercury remains stubbornly prevalent.

Because IBAMA Normative Instruction No. 26-2024 is so new, it is premature to evaluate its effectiveness. If IBAMA and other actors (customs authorities, transportation control, mining authorities, forest protection authorities, and state counterparts) prioritize implementation and policing of this new framework, it has the potential to be a game-changer. Even then, however, IBAMA Normative Instruction No. 26-2024 needs to be coupled with a committed effort to reduce clandestine imports and underground trafficking of mercury.

To be frank, the scale of illegal gold mining in Brazil’s Amazon region precludes solving the problem entirely through a permit system. As in the other focus countries, it seems clear that there are individuals and organizations who have never operated with permits and probably never will, including actors linked with organized crime.³²² Furthermore, to again paraphrase Professor Crespo López: “Good laws are not enough—and even strong enforcement is not enough. We

³¹⁷ IBAMA Normative Instruction No. 26-2024, Art. 9.

³¹⁸ https://escolhas.org/wp-content/uploads/2024/07/EN_SUM_Mercury.pdf

³¹⁹ Interview with Professor Maria Elena Crespo López (March 20, 2025).

³²⁰ <https://news.mongabay.com/2024/07/report-reveals-widespread-use-of-smuggled-mercury-in-amazon-gold-mining/>; <https://insightcrime.org/investigations/poisonous-mercury-trade/>

³²¹ <https://news.mongabay.com/2024/04/brazils-illegal-gold-trade-takes-a-hammering-but-persists-underground/>

³²²

also need to change the thinking of the people involved in or affected by this activity. They must see mercury-based mining for the scourge that it is.”³²³

4. An End to the Presumption of Legality for the First Transaction in the Gold Supply Chain

Until very recently, it was relatively easy under Brazilian law for illegal miners and other unscrupulous actors to pass off illegally mined gold as legal; as long as the miners were successfully able to register the first transaction, the law (Law 12.884 of 2013) thereafter treated the gold as legal for any subsequent transactions.³²⁴ As of a 2013 court decision, however, the provision containing this presumption of legality has been suspended, apparently closing off this much-exploited loophole.³²⁵ To be more precise, the provision was tentatively suspended in 2013 by a decision of a single Justice of the Federal Supreme Court. In March 2025, this decision was confirmed by the Federal Supreme Court sitting in a plenary session.³²⁶ Thus, the presumption seems to be buried for good.

Brazil's Judiciary as a Check on Problematic Laws and Practices

The decision overruling the presumption of “good faith” is the result of litigation arguing against the constitutionality of the provision in question. Without getting too caught up in the merits of the case, this decision serves as another data point in support for the notion, widely held in Latin America, that the judicial branch in Brazil is one of the most independent and impartial in the region. Thus, as a side note, litigation as a tool to effect change in the gold mining sector may be more fruitful in Brazil than in many other countries in the region.

Under Article 39 of Law 12.884, the first seller (i.e., the miner or mining cooperative) is required to issue an invoice or sales receipt declaring the origin of the gold through identification “of the mining area, the State or Federal District, and the Municipality of origin of the gold, the number of the administrative process in the mineral resources management body and the number of the extraction authorization title[.]”³²⁷ The buyer, for their part, must provide a purchase invoice and register the seller’s identification information with the government. So far, so good. However, Article 39 ends with the following provision: “The legality

of the gold acquired, and the good faith of the acquiring legal entity are presumed when the information mentioned in this article, provided by the seller, is duly filed at the headquarters of the institution legally authorized to purchase gold.”³²⁸

According to conversations with experts interviewed for this report, this presumption had the effect of immunizing unknown quantities of gold of dubious provenance; so long as the original buyer and seller cooperated with each other, illegally mined gold could be frequently registered as legal gold. And, with this presumption in place as to the first transaction, every subsequent sale and purchase benefited from this presumption, inoculating the entire supply chain against questions as to the gold’s legality. Traceability inquiries were “solved” (however dubiously) by the

³²³ This is not an exact quote but a paraphrase of Professor Maria Elena Crespo López’s comments during an interview with the author (interview on file).

³²⁴ https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2013/lei/l12844.htm

³²⁵ <https://oeco.org.br/noticias/stf-poe-fim-definitivo-na-presuncao-de-boa-fe-no-comercio-de-ouro/>

³²⁶ <https://oeco.org.br/noticias/stf-poe-fim-definitivo-na-presuncao-de-boa-fe-no-comercio-de-ouro/>

³²⁷ https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2013/lei/l12844.htm

³²⁸

presumption applied to the first transaction. In reality, of course, that presumption rested on a very weak foundation: that the buyer and seller (and perhaps especially the seller) had honestly reported the gold's provenance and would not be able to successfully claim an extraction authorization title that, in reality, did not correspond to the gold in question.

According to Professor Maria Elena Crespo López, this presumption of legality and good faith incentivized illegal gold mining. It is not hard to see why and how. A simple collusion between seller and buyer, coupled with a system that finds it difficult to verify what the seller and buyer report, will already face traceability issues. Adding a presumption of good faith and legality makes it that much easier to pass off illegally extracted gold as legal. And, if the laundering process is seen as low-risk and high-reward, then this will naturally incentivize more illegal mining and laundering of illegally extracted gold.

Returning to the positive news, the Federal Supreme Court's decision to excise the presumption of legality and good faith is plainly helpful in the fight to prevent illegally mined gold from reaching the marketplace. While more speculative, it is further possible that the decision may have the knock-on effect, however modest, of reducing illegal gold mining in the first instance and the use of mercury in such mining.

5. Other Laws and Considerations: Forfeiture and Destruction of Illegal Mining Equipment, Pollution Laws, and IPLC Rights

Over the years, Brazil has built important legal infrastructure to address several of the more concerning issues associated with mercury-based gold mining. These include criminal penalties for illegal mining, pollution, and the unauthorized use of toxic substances; laws that authorize the forfeiture and destruction of illegal mining equipment; and protections for IPLCs and the environments they inhabit and use.

- **Criminal Penalties for Illegal Mining, Pollution, and the Unauthorized Use of Toxic Substances**

Although Brazil does not maintain a law specifically targeting the crime of illegal mining with mercury, it has criminalized illegal mining, pollution offenses, and the unauthorized use of toxic substances.³²⁹

Beginning with mining, Article 55 of Law No. 9605 of 1998, as amended, provides for six months to one year of detention, and a fine, for anyone who “min[es] or extract[s] . . . mineral resources without the appropriate authorization, permission, concession or license, or in contravention” of the same.³³⁰ Although this penalty is rather low when compared to the other countries examined in this report, real-life alluvial gold mining scenarios with mercury would almost certainly trigger other crimes and additional penalties.

To illustrate the point, imagine a situation, at least somewhat typical, involving an unauthorized alluvial gold mining operation. The operation uses a suction dredger to scour the river bottom, a diesel-powered generator, and a wooden raft. On shore, the equipment includes a compressor, a

³²⁹ https://www.planalto.gov.br/ccivil_03/leis/l9605.htm

³³⁰ https://www.planalto.gov.br/ccivil_03/leis/l9605.htm

large heating apparatus, copper tubs, and significant quantities of liquid mercury. In a day's operation, the team moves a few tons of sediment from the riverbed and ends up releasing in the riparian area, both in gas and liquid form, significant quantities of mercury.

As described, this operation would certainly meet the elements of illegal mining under Article 55, but it would also seem to qualify for penalties under Article 56 (unauthorized use of a “product or substance that is toxic, dangerous or harmful to human health or the environment”), consisting of a fine and one to four years of imprisonment,³³¹ as well as the same penalties under Article 54 (“causing pollution of nature at levels that result or may result in harm to human health, or that cause the death of animals or the significant destruction of flora”).³³² If the perpetrators were convicted of all crimes and if the court imposed maximum sentences to run consecutively, the possible fines and years of imprisonment would add up quickly. Moreover, Law No. 9605 contains a comprehensive list of aggravating circumstances, several of which (like committing the crime for pecuniary gain, causing environmental harm that reaches human settlements, recidivism, etc.) could be applicable in many and perhaps even most illegal gold mining scenarios.³³³ Finally, as is standard in the region, Law No. 9605 contemplates seizure and permanent loss of the proceeds and instruments of crime.³³⁴ When coupled with the possibility of destruction of equipment like dredges, compressors, and even backhoes or earthmovers (discussed below), Brazilian law furnishes tools to leave the worst offenders regretting their actions.

- **Forfeiture and Destruction of Illegal Mining Equipment**

Decree 6514 of 2008 establishes that products used in environmental infractions, including but not limited to mining violations, may be destroyed or rendered inoperable when necessary to prevent their improper use.³³⁵ As in Peru, this provision applies in cases where transportation and storage are unfeasible, as is often the case with illegal gold-mining equipment used in remote regions of the Amazon rainforest, as well as when the items pose a risk to public safety and health. (Note that Brazilian law also authorizes forfeiture of the proceeds of environmental crime; in that context, however, the law provides the accused with a far more robust opportunity to contest the charges and prevent final loss of the monies allegedly flowing from environmental crime.)

In an attempt to limit the ability of federal officers to destroy equipment seized during environmental operations, the State of Roraima passed a law in 2022 purporting to prohibit destruction within the State's territory. In 2023, the Federal Supreme Court held the Roraima State law unconstitutional, confirming a preliminary injunction issued by Chief Justice Luís Roberto Barroso. In the earlier decision by Chief Justice Barroso, the Chief Justice opined that the state law clashed with the fundamental right to an ecologically balanced environment, as it increased the likelihood of additional environmental offenses using the seized equipment.³³⁶

³³¹ https://www.planalto.gov.br/ccivil_03/leis/l9605.htm

³³² https://www.planalto.gov.br/ccivil_03/leis/l9605.htm

³³³ https://www.planalto.gov.br/ccivil_03/leis/l9605.htm

³³⁴ https://www.planalto.gov.br/ccivil_03/leis/l9605.htm

³³⁵ https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2008/decreto/d6514.htm

³³⁶ <https://portal.stf.jus.br/noticias/verNoticiaDetalhe.asp?idConteudo=502827&ori=1>

- **IPLC Rights**

With respect to IPLCs, the Brazilian Constitution recognizes two primary classes of peoples with special rights: Indigenous peoples and Afro-Brazilian *quilombolas*. Both peoples have the right to their traditional lands and territories.³³⁷ Further, with respect to a concept that seems to be particularly weighty in Brazil, the Constitution enshrines cultural rights.³³⁸

Like the other countries included in this report, Brazil's status as a party to ILO Convention 169³³⁹ and the American Convention on Human Rights has led to important additional protections for IPLCs, including the right to traditional territories, use and management of renewable natural resources, the right to a healthy environment, and the right to legal recourse. Incorporated into national law through Decree 5.051/2004 (and then Decree 10.088/2019), the norms of ILO Convention 169 in Brazil apply not only to Indigenous peoples and *quilombolas*, but also to other traditional communities, such as *ribeirinho* communities.

Notably, Brazil is not yet a Party to the Escazú Agreement (i.e., the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean) despite signing the convention text in 2018.³⁴⁰ While the Escazú Agreement is not exclusively focused on IPLCs or mining, its obligations are certainly germane to gold mining using mercury. From protecting environmental defenders to providing improved access to courts in environmental disputes, Brazil's ratification of the Escazú Agreement would provide an important boost to IPLCs struggling with informal and illegal gold mining.

6. Closing Thoughts

Brazil's recent actions demonstrate a renewed commitment to addressing mercury in gold mining and, more broadly, informal and illegal gold mining. IBAMA Normative Instruction No. 26-2024 represents an impressive regulatory approach to mercury imports, domestic commerce, and use. Although it does not amount to a total ban on imports, sale, and use, the 2024 regulation comes close to that effect. The regulation prohibits imports of mercury for mining, regardless of mining type; and although mercury may be sold domestically for use in gold mining, it can only be sold to a person or entity authorized to engage in gold mining. Because Brazil does not produce mercury, this scheme should theoretically lead to reduced availability of mercury for gold mining.

The key, of course, will be monitoring and enforcement—both as to (1) ostensibly legal trade and use of mercury flowing through formal channels, and (2) outright contraband mercury moving through the black market. Recent upticks in Brazilian enforcement operations against illegal gold mining and mercury smuggling provide cause for hope. Yet, given the scale of the problem and its transnational nature, illegal and informal gold mining using mercury will continue to be a major problem in Brazil for years to come.

³³⁷ Federal Constitution of Brazil, Art. 20, 216.

³³⁸ See *generally* Federal Constitution of Brazil, Chapter III.

³³⁹ International Labour Organization (ILO), Indigenous and Tribal Peoples Convention, C169, June 27, 1989, *entry into force* Sept. 5, 1991.

³⁴⁰ <https://observatoriop10.cepal.org/en/treaty/regional-agreement-access-information-public-participation-and-justice-environmental-matters>

E. Bolivia

In recent years, gold has been Bolivia's top export.³⁴¹ At the same time, Bolivia has become South America's hub for import and contraband export of mercury. Since 2015, Bolivia has ranked first or second globally in importing mercury.³⁴² The majority of Bolivia's mercury imports (approximately 200 tons per year) come by way of Mexico.³⁴³ For context, between 2016 and 2021, Bolivia imported over 1,100 tons versus Brazil's importation of only 100 tons during the same timeframe.³⁴⁴ As such, Bolivia imports 10 times more mercury than Brazil despite producing similar amounts of gold.³⁴⁵ The obvious implication is that Bolivia has a large surplus of mercury that is ripe for contraband export. Indeed, much of Bolivia's mercury imports are exported as contraband to neighboring countries, especially Peru and Brazil (but buyers from Ecuador and Colombia are also present).³⁴⁶

Pollution due to mercury use has become a major problem, including in protected areas with high degrees of biodiversity.³⁴⁷ There are more than 1,000 artisanal mining operations engaged in deforestation, waterway diversion, and the literal change of the landscape.³⁴⁸

One of the greatest problems Bolivia faces with respect to its mercury use is the impact on human health. Bolivia's mercury use has likely raised the level of mercury concentration in the bodies of members of local populations, especially IPLCs.³⁴⁹ Multiple studies have revealed abnormal levels of mercury in the bodies of downstream communities.³⁵⁰ Indeed, though the cause is

³⁴¹ Graham, Thomas. "In Bolivia, Mercury Pollution Spreads Amid a Surge in Gold Mining," YaleEnvironment360, Dec. 8, 2022. <https://e360.yale.edu/features/bolivia-mercury-gold-mining#:~:text=A%20boom%20in%20small%2Dscale,of%20the%20highly%20toxic%20chemical>.

³⁴² Ramírez, María Fernanda. "The Poisonous Mercury Trade," InSight Crime, May 2, 2024. <https://insightcrime.org/investigations/poisonous-mercury-trade/>.

³⁴³ Radwin, Maxwell. "Mercury rising: Why Bolivia remains South America's hub for the toxic trade," Mongabay, Nov. 8, 2022. <https://news.mongabay.com/2022/11/mercury-rising-why-bolivia-remains-south-americas-hub-for-the-toxic-trade/>.

³⁴⁴ Ramírez, María Fernanda. "The Poisonous Mercury Trade," InSight Crime, May 2, 2024. <https://insightcrime.org/investigations/poisonous-mercury-trade/>.

³⁴⁵ Wenzel, Fernanda. "Report reveals widespread use of smuggled mercury in Amazon gold mining," Mongabay, Jul. 17, 2024. <https://news.mongabay.com/2024/07/report-reveals-widespread-use-of-smuggled-mercury-in-amazon-gold-mining/>.

³⁴⁶ Radwin, Maxwell. "Mercury rising: Why Bolivia remains South America's hub for the toxic trade," Mongabay, Nov. 8, 2022. <https://news.mongabay.com/2022/11/mercury-rising-why-bolivia-remains-south-americas-hub-for-the-toxic-trade/>.

³⁴⁷ Graham, Thomas. "In Bolivia, Mercury Pollution Spreads Amid a Surge in Gold Mining," YaleEnvironment360, Dec. 8, 2022. <https://e360.yale.edu/features/bolivia-mercury-gold-mining#:~:text=A%20boom%20in%20small%2Dscale,of%20the%20highly%20toxic%20chemical>.

³⁴⁸ Graham, Thomas. "In Bolivia, Mercury Pollution Spreads Amid a Surge in Gold Mining," YaleEnvironment360, Dec. 8, 2022. <https://e360.yale.edu/features/bolivia-mercury-gold-mining#:~:text=A%20boom%20in%20small%2Dscale,of%20the%20highly%20toxic%20chemical>.

³⁴⁹ Graham, Thomas. "In Bolivia, Mercury Pollution Spreads Amid a Surge in Gold Mining," YaleEnvironment360, Dec. 8, 2022. <https://e360.yale.edu/features/bolivia-mercury-gold-mining#:~:text=A%20boom%20in%20small%2Dscale,of%20the%20highly%20toxic%20chemical>.

³⁵⁰ Graham, Thomas. "In Bolivia, Mercury Pollution Spreads Amid a Surge in Gold Mining," YaleEnvironment360, Dec. 8, 2022. <https://e360.yale.edu/features/bolivia-mercury-gold-mining#:~:text=A%20boom%20in%20small%2Dscale,of%20the%20highly%20toxic%20chemical>.

unclear, following intensification of mining activities, one Indigenous community's members noted muscle, head, and stomach pain.³⁵¹ In addition, other communities have reported memory loss, hand tremors, and sensory problems.³⁵² Many of these communities catch mercury-contaminated fish that is the basis of their diet.³⁵³ Hair tests from community members have shown, in some instances, mercury contamination many times higher than safe levels.³⁵⁴ In another study of communities in the Beni, Madre de Dios, and Mamoré rivers, nearly 90 percent of those tested had mercury levels exceeding the safe limit.³⁵⁵

As explained below, most of Bolivia's gold mining occurs under a system of semi-formal mining cooperatives (co-ops) that wield great political and economic power. These co-ops have grown by leaps and bounds in recent years. The number of mining co-ops grew from around 800 in 2006 to approximately 1,900 by 2019,³⁵⁶ carrying out 94% of gold production in Bolivia. Reports describe the co-ops as the beneficiaries of laws favorable to co-op miners, including especially a measure in the general mining law (Law 535, discussed in more detail below) that reduces royalties due to the state from 7% to 2.5% in the case of "marginal" deposits mined by "small scale" operations.³⁵⁷ Local experts have emphasized that in practice the co-ops are almost universally able to use this provision even if they do not genuinely fit within the "marginal" and "small-scale" parameters.³⁵⁸

For the most part, co-ops operate in a largely unrestricted fashion. Indeed, mining concessions have been given in protected areas without carrying out inspections to confirm that co-ops limit mining to assigned 25-hectare areas. Moreover, approximately 85% of co-ops function without any kind of environmental license.³⁵⁹ "By maintaining a status quo of non-enforcement, legal

³⁵¹ Graham, Thomas. "In Bolivia, Mercury Pollution Spreads Amid a Surge in Gold Mining," *Yale Environment 360*, Dec. 8, 2022. <https://e360.yale.edu/features/bolivia-mercury-gold-mining#:~:text=A%20boom%20in%20small%20scale,of%20the%20highly%20toxic%20chemical>.

³⁵² Arriaza, Miguel. "Bolivia's mercury dilemma: The metal that both feeds and poisons the country's Amazon Region," *El Pais*, May 6, 2023. <https://english.elpais.com/international/2023-05-06/bolivias-mercury-dilemma-the-metal-that-both-feeds-and-poisons-the-countrys-amazon-region.html>.

³⁵³ Arriaza, Miguel. "Bolivia's mercury dilemma: The metal that both feeds and poisons the country's Amazon Region," *El Pais*, May 6, 2023. <https://english.elpais.com/international/2023-05-06/bolivias-mercury-dilemma-the-metal-that-both-feeds-and-poisons-the-countrys-amazon-region.html>.

³⁵⁴ Arriaza, Miguel. "Bolivia's mercury dilemma: The metal that both feeds and poisons the country's Amazon Region," *El Pais*, May 6, 2023. <https://english.elpais.com/international/2023-05-06/bolivias-mercury-dilemma-the-metal-that-both-feeds-and-poisons-the-countrys-amazon-region.html>.

³⁵⁵ Collins, Dan. "How Bolivia's Gold Rush is Poisoning Indigenous Communities," *NewScientist*, Jan. 10, 2024. <https://rainforestjournalismfund.org/stories/how-bolivias-gold-rush-poisoning-indigenous-communities>.

³⁵⁶ Arriaza, Miguel. "Bolivia's mercury dilemma: The metal that both feeds and poisons the country's Amazon Region," *El Pais*, May 6, 2023. <https://english.elpais.com/international/2023-05-06/bolivias-mercury-dilemma-the-metal-that-both-feeds-and-poisons-the-countrys-amazon-region.html>.

³⁵⁷ Ley de Minería, 535, Art. 227, <https://mineria.gob.bo/juridica/20140528-13-6-11.pdf>; Arriaza, Miguel. "Bolivia's mercury dilemma: The metal that both feeds and poisons the country's Amazon Region," *El Pais*, May 6, 2023. <https://english.elpais.com/international/2023-05-06/bolivias-mercury-dilemma-the-metal-that-both-feeds-and-poisons-the-countrys-amazon-region.html>; <https://www.opinion.com.bo/articulo/pais/cooperativas-que-explotan-oro-aportan-25-regalias-pagan-impuestos/20230910224402920382.html>.

³⁵⁸ <https://www.opinion.com.bo/articulo/pais/cooperativas-que-explotan-oro-aportan-25-regalias-pagan-impuestos/20230910224402920382.html>.

³⁵⁹ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, *InSight Crime*, April 2024, p. 32.

ambiguity, and pervasive informality, gold-mining cooperatives are permitted to reap higher benefits from resource extraction at the expense of domestic revenue mobilization.”³⁶⁰

Regarding IPLCs and their relationship to the co-ops, while many co-ops operate in spite of opposition by IPLCs, some members of IPLCs not only work for cooperatives but run their own co-ops.³⁶¹ Thus, this is not a simple question of indigenous communities consistently being subjected to pollution created by outside miners, but a much more complex scenario where, in some cases, indigenous communities are protagonists. For example, according to one conservationist in the Apolobamba region, “For the communities, mining means development, [a]nd that means they might see us conservationists as obstructing their development.”³⁶² Furthermore, enforcement in these mining communities, including those in protected areas, is an extremely difficult task, which often falls to under-resourced park rangers “who have to balance upholding the law with maintaining relations with the communities and the cooperatives so as to be able to conduct inspections and administrative processes.”³⁶³ In some protected areas, rangers have found themselves barred from entry by local residents.³⁶⁴

In addition, corruption, specifically “illicit acts by national and local officials,” fuels Bolivia’s largely failed management of mercury use, including in illegal gold mining.³⁶⁵ Additional weaknesses include “extensive and porous borders, a lack of governance, outdated regulations, poor financial controls, unregulated commercial spaces, and widespread deinstitutionalization.”³⁶⁶

Finally, and as discussed in more detail below, the Bolivian Central Bank’s role as a purchaser of gold seems to be exacerbating the problem of gold mining using mercury. As Bolivia finds itself in the middle of an economic crisis that includes limited access to dollars and depleted international reserves, Bolivia has indirectly encouraged the continued use of mercury by passing a law (Law 1503 of 2023) which authorizes the purchase of gold by the Bolivian Central Bank in order to strengthen its international reserves.³⁶⁷ It is unclear how or whether the Bolivian Central Bank

³⁶⁰ Brugger, Fritz et al., “WIDER Working Paper 2022/171: The state and the ‘legalization’ of illicit financial flows,” UNU-WIDER, Dec. 2022

³⁶¹ Graham, Thomas. “In a Bolivian protected area torn up for gold, focus is on limiting damage,” Mongabay, May 2, 2023. <https://news.mongabay.com/2023/05/in-a-bolivian-protected-area-torn-up-for-gold-focus-is-on-limiting-damage/>.

³⁶² Graham, Thomas. “In a Bolivian protected area torn up for gold, focus is on limiting damage,” Mongabay, May 2, 2023. <https://news.mongabay.com/2023/05/in-a-bolivian-protected-area-torn-up-for-gold-focus-is-on-limiting-damage/>.

³⁶³ Graham, Thomas. “In a Bolivian protected area torn up for gold, focus is on limiting damage,” Mongabay, May 2, 2023. <https://news.mongabay.com/2023/05/in-a-bolivian-protected-area-torn-up-for-gold-focus-is-on-limiting-damage/>.

³⁶⁴ Graham, Thomas. “In a Bolivian protected area torn up for gold, focus is on limiting damage,” Mongabay, May 2, 2023. <https://news.mongabay.com/2023/05/in-a-bolivian-protected-area-torn-up-for-gold-focus-is-on-limiting-damage/>.

³⁶⁵ “Illegal gold mining is on the rise in the region due to corruption and five other weaknesses,” Los Tiempos, Jun. 26, 2023. <https://www.lostiempos.com/actualidad/pais/20230626/mineria-ilegal-oro-crece-region-corrupcion-otras-5-debilidades>.

³⁶⁶ “Illegal gold mining is on the rise in the region due to corruption and five other weaknesses,” Los Tiempos, Jun. 26, 2023. <https://www.lostiempos.com/actualidad/pais/20230626/mineria-ilegal-oro-crece-region-corrupcion-otras-5-debilidades>.

³⁶⁷ See Law 1503 of 2023.

screens gold to ensure that it is not purchasing gold mined using mercury, gold extracted from areas not zoned for mining, or gold otherwise contaminated with illegality. At the very least, the Bolivian Central Bank's policy has added a new source of domestic demand for gold—and its provenance may be an afterthought for the government and the Central Bank, both of which are facing the worst economic conditions in several decades.

In short, Bolivia has taken very little action to address the use of mercury in gold mining, including in the artisanal and small-scale context. While the government has issued a decree to register the import, export, and commercialization of mercury in the country (Supreme Decree 4959, discussed in more detail below), it has not gone anywhere near passing laws and regulations aimed at directly reducing mercury use in gold mining. The situation is further complicated by: (1) the fact that the gold mining landscape is dominated by very powerful mining cooperatives that operate in a semi-formal manner and essentially control the situation on the ground; and (2) the government's move to incentivize further gold mining by authorizing the central bank to purchase gold to strengthen international reserves. And while Bolivia has a number of laws and regulations on the books that could be used, however indirectly, to reduce mercury use in gold mining, there is limited evidence that this is occurring.

1. Introduction to Law and Policy Response

As a Party to the Minamata Convention, Bolivia has an obligation to reduce and, where feasible, eliminate the use of mercury in gold mining. Yet, Bolivia has thus far failed to develop a National Action Plan and, with the exception of a limited Supreme Decree on registering and approving the import, export, and marketing of mercury,³⁶⁸ Bolivia has done little to reduce, much less eliminate, the use of mercury in gold mining. In fact, Bolivia continues to be one of the world's largest importers of mercury.³⁶⁹ This imported mercury is used both domestically and in neighboring countries, generally through clandestine, contraband exports.³⁷⁰

Further, in a more recent development, Bolivia has effectively incentivized gold mining through a law directing the Central Bank to purchase gold from domestic producers in order to strengthen its international reserves.³⁷¹ While perhaps understandable as a response to the country's shortage of dollars—a problem that has become acute in recent months, compromising Bolivia's ability to purchase gasoline and diesel—this law creates more demand for gold mining, much of which relies on mercury.

Unfortunately, the problem runs deeper than a transient economic slump. Bolivia's main problem with respect to regulating (and over time, reducing and eliminating) the use of mercury in gold mining seems to flow from a mining system that is dominated by mining cooperatives that hold tremendous power and operate without significant oversight.³⁷²

³⁶⁸ See Supreme Decree 4959 of 2023.

³⁶⁹ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 37.

³⁷⁰ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 40.

³⁷¹ See Law 1503 of 2023.

³⁷² La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 27-32.

Small-scale mining for gold is generally conducted as part of the mining co-op system.³⁷³ It is, in some respects, a semi-formal system and all indications are that it will continue to operate in this manner absent a committed effort by the government and civil society to forge an alternative framework acceptable to miners. While the law provides for significant penalties for illegal mining, pollution, and other associated crimes, there is scarce indication these provisions are being applied to mining co-ops and their members. The co-ops by and large operate as they please; until this changes, at least as concerns mercury, Bolivia will struggle to meet its Article 7 commitment.

One might reasonably ask “How is it possible that the co-ops hold so much power and seem to operate above the law”? The cynical answer in this case is, at least in part, the correct one. The co-ops generate very large sums of money and corruption abounds.³⁷⁴ Combine that with significant numbers of individuals with tightly aligned interests, strict syndical discipline, powerful organizing capacity, and a penchant for at least shows of violence if not outright violence (massive marches on La Paz punctuated with the occasional dynamite blast is a go-to move when the government entertains a proposal antagonistic to co-ops)—combine all this with the economic resources at co-ops’ disposal, and it becomes easy to see how co-ops have emerged as a difficult sector to regulate and control.

2. Supreme Decree 4959—Toward Control of Import, Export, and Commercialization of Mercury in Bolivia

Supreme Decree 4959 is one of the few forceful actions Bolivia has taken in response to its obligations under the Minamata Convention. Essentially, it creates a system to regulate and track imports, exports, and domestic commerce in mercury. Although the decree does nothing to reduce such imports, exports, and commerce, effective implementation of the decree—which this study has not been able to evaluate one way or the other—could make a significant difference in taming Bolivia’s mercury market.

The decree establishes a Single Mercury Registry (RUME) and a system of prior authorization for import and export of mercury.³⁷⁵ The RUME has “the purpose of registering any natural or legal person, public or private, who intends to carry out mercury import, export, or marketing activities.”³⁷⁶ It gives the Ministry of the Environment and Water the task of regulating enrollment of persons and organizations into the RUME.³⁷⁷

The Ministry of the Environment and Water is likewise tasked with establishing the requirements, conditions, and procedures for granting a “Prior Authorization” permit for the import or export of mercury.³⁷⁸ According to the agency’s website, “Prior Authorization is the document through which

³⁷³ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 27.

³⁷⁴ See, e.g.,

[https://mineria.gob.bo/documentos/noticias.php?pvnoticia=1483&codigo=eyJzdWliOiMjM0NTY3ODkwliwibmFtZSI6IkpwG4gRG9liwiaWF0IjoxNTE2MjM5MDIyfQ](https://mineria.gob.bo/documentos/noticias.php?pvnoticia=1483&codigo=eyJzdWliOiMjM0NTY3ODkwliwibmFtZSI6IkpwG4gRG9liwiaWF0IjoxNTE2MjM5MDIyfQ;); <https://www.urgente.bo/noticia/bolivia-sufre-aprietos-economicos-y-la-explotación-informal-del-oro-está-en-auge>.

³⁷⁵ Supreme Decree 4959 of 2023, Art. 1.

³⁷⁶ Supreme Decree 4959 of 2023, Art. 2.

³⁷⁷ Supreme Decree 4959 of 2023, Art. 2.

³⁷⁸ Supreme Decree 4959 of 2023, Art. 3.

the National Customs may carry out the respective control at the time of entry or exit of this substance into/from national territory. This authorization will be granted by the Ministry of Environment and Water in consultation with the Competent Sectoral Bodies involved.”³⁷⁹ The website further notes that Decree 4959 “was approved within the framework of compliance with the guidelines established in the Minamata Convention on Mercury.”³⁸⁰

The National Customs service has issued a set of instructions regarding the application of Decree 4959, specifically with respect to obtaining prior authorization for import and export of mercury.³⁸¹ Although hardly an indicator of implementation and compliance levels, the existence of this guidance document is a positive sign.

In its Ministerial Resolution 325, the Ministry of the Environment and Water approved the Regulation for the Single Mercury Registry (RUME) and the Regulation for Prior Authorization for the Import or Export of Mercury.³⁸² The Regulation for Prior Authorization for the Import or Export of Mercury includes provisions and requirements for written consent of the state.

Overall, Decree 4959 and its implementing regulations are short and to the point. They establish a process for registering mercury importers, exporters, and marketers as well as a process of obtaining prior authorization. Although this process is somewhat formulaic and does not expressly aim to reduce mercury import, export, sale, and use in the country, the establishment of a special permit system—if properly policed—is an important first step.

3. The Mining Co-ops: Law 356 of 2013 and How Co-ops Operate on the Ground

As noted above, mining co-ops dominate the gold mining sector in Bolivia. Law 356 of 2013 (the General Law of Cooperatives) establishes the basic contours of cooperative law throughout various sectors of the entire economy but does little to elucidate the specifics of the mining co-op system.³⁸³ The mining co-op system is best described as “semi-formal”; it is loosely anchored in law and has an important but nebulous relationship with the state. In practice, the National Federation of Mining Cooperatives (FENCOMIN) exists as the primary intermediary between the state and mining co-ops, exerting significant power over how those co-ops, including gold mining co-ops, operate.

Aside from Law 356, Bolivia’s regulatory landscape in the area has been said to “erase[] the lines between the legal and the illegal.”³⁸⁴ Gold mining in the country has expanded over the past several years, especially in the Amazon region, and it is largely carried out by small-scale mining

³⁷⁹ “Government approves Supreme Decree 4959 that regulates the importation of mercury in Bolivia,” Ministry of the Environment and Water, June 15, 2023. <https://www.mmaya.gob.bo/2023/06/15/gobierno-aprueba-decreto-supremo-n-4959-que-regula-la-importacion-de-mercurio-en-bolivia/>

³⁸⁰ “Government approves Supreme Decree 4959 that regulates the importation of mercury in Bolivia,” Ministry of the Environment and Water, June 15, 2023. <https://www.mmaya.gob.bo/2023/06/15/gobierno-aprueba-decreto-supremo-n-4959-que-regula-la-importacion-de-mercurio-en-bolivia/>

³⁸¹ National Customs, Minute of Instruction re: Application of Supreme Decree 4959 of 2023.

³⁸² Ministerial Resolution 325 of 2023, Ministry of the Environment and Water.

³⁸³ See *generally* Law 356 of 2013 (General Law of Cooperatives).

³⁸⁴ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 27.

co-ops³⁸⁵ that operate somewhere between the informal and the semi-formal. As a whole, these co-ops possess significant economic and political power and, in the face of limited regulations (or at least limited enforced regulations), have moved further into the Amazon region and have developed associations with illegal actors without mining licenses from Colombia and China.³⁸⁶ These operations include mining in national protected areas and parks where enforcement by park rangers is severely limited.³⁸⁷ Indeed, mining concessions have been given even in national protected areas.³⁸⁸

The mining co-ops “operate virtually with impunity due to loopholes in Bolivian legislation and poor oversight by the Mining Administrative Jurisdictional Authority (AJAM).”³⁸⁹ According to one expert, the paucity of law and enforcement “give the cooperative mining sector the opportunity to truly behave like an illegal miner.”³⁹⁰ This is even more important when one considers that the mining co-ops “control 94% of the national production of gold in the country.”³⁹¹

4. Other Provisions Related to Mercury Use, Hazardous Waste, and Environmental Harm

Apart from Supreme Decree 4959 and its regulations on import, export, and domestic commerce in mercury—which, again, Bolivia promulgated in 2023 following its ratification of the Minamata Convention—a handful of older laws and regulations remain relevant to mercury-based gold mining. A pair of these speak to mercury explicitly, while others address mercury through broader terms like “hazardous waste” and “environmental harm.”

- **Supreme Decree 24782 of 1997 (Environmental Regulation for Mining Activities)**

Supreme Decree 24782 of 1997 directly addresses mercury use and provides significant restrictions in the mining context. It states as follows: “The use of mercury in mineral concentration processes is only permitted when mercury recovery equipment is installed at the process outlet. Amalgam treatment must be carried out in retorts or other equipment that prevents the release of mercury into the environment.”³⁹²

³⁸⁵ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 27.

³⁸⁶ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 27.

³⁸⁷ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 27.

³⁸⁸ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 27.

³⁸⁹ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 29.

³⁹⁰ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 29 (quoting Oscar Campanini).

³⁹¹ La Amazonía Saqueada: Las Raíces de los Delitos Ambientales en Bolivia, InSight Crime, April 2024, p. 29.

³⁹² Supreme Decree 24782 of 1997 (Environmental Regulation for Mining Activities), Art. 27. *See also* Supreme Decree 28587 of 2006 (Modification to the Environmental Regulation for Mining Activities). This amendment includes commercialization of minerals along with other relevant mining activities in the list of covered activities subject to the regulation.

If this decree were enforced that would be a significant step toward the control and, hopefully, reduction of mercury use in gold mining. However, the government seems to be carrying out few if any enforcement actions under this highly relevant provision.³⁹³

- **Supreme Decree 24176 of 1995 (Regulation on Water Pollution)**

The 1995 Regulation on Water Pollution establishes maximum permissible limits of contaminants, including mercury.³⁹⁴ Like Decree 24872, this decree is dated, and it is unclear if it is being enforced. Generally, Supreme Decrees are issued unilaterally by the President in power at the time of issuance. On the other hand, desk research revealed no legal impediment to this decree's enforcement.

- **Law 1333 of 1992 (Law of the Environment)**

The 1992 Law of the Environment has several relevant provisions related to environmental harm, hazardous substances, and punishment regarding the same. For starters, Article 21 creates a “duty of all individuals or organizations that carry out activities that may degrade the environment to take appropriate preventive measures and inform the competent authority and those potentially affected, in order to avoid harm to the health of the population, the environment, and property.”³⁹⁵

Furthermore, Article 30 provides that the state “shall regulate and control the production, introduction, and marketing of . . . substances that are hazardous and/or harmful to health and/or the environment.”³⁹⁶ Under any standard reading, this gives the Bolivian government broad authority to regulate mercury as a substance that is inherently “hazardous” and “harmful” to human health and ecosystems. However, while Article 31 goes on to prohibit and penalize “illegal trafficking of hazardous waste,” that language is likely a poor fit for mercury being used in gold production. Disposal of mercury once used, on the other hand, would seem to come within Article 31’s ambit, although ambiguities remain.³⁹⁷

Regarding water pollution and environmental degradation, Article 39 provides that “[t]he State shall regulate and control the discharge of any liquid, solid, or gaseous substance or waste that causes or may cause water pollution or environmental degradation.”³⁹⁸ This Article is clearly applicable to alluvial gold mining operations. Similarly, with respect to mining, Article 70 provides that “[t]he exploitation of mineral resources must be carried out considering the comprehensive use of raw materials [and] the treatment of waste materials[.]”³⁹⁹

³⁹³ See also Supreme Decree 28587 of 2006 (Modification to the Environmental Regulation for Mining Activities). This amendment includes commercialization of minerals along with other relevant mining activities in the list of covered activities subject to the regulation.

³⁹⁴ See generally Regulation on Water Pollution (1995).

³⁹⁵ Law 1333 of 1992 (Law of the Environment), Art. 21 (emphasis added).

³⁹⁶ Law 1333 of 1992 (Law of the Environment), Art. 30 (emphasis added).

³⁹⁷ Law 1333 of 1992 (Law of the Environment), Art. 31.

³⁹⁸ Law 1333 of 1992 (Law of the Environment), Art. 39.

³⁹⁹ Law 1333 of 1992 (Law of the Environment), Art. 70 (emphasis added).

Regarding incentives to promote cleaner activities, including mining, Article 90 provides as follows: “The State, through its competent agencies, shall establish mechanisms to promote and incentivize all public and/or private industrial, agricultural, mining, forestry, and other activities that incorporate technologies and processes aimed at achieving environmental protection and sustainable development.”⁴⁰⁰ In the gold mining context, however, it is unclear whether or how this mandate has been implemented.

The Law of the Environment also provides broad authority for inspection and oversight by the government. To this end, Articles 95 and 96, establish the state’s right to conduct inspections without interference and to collect relevant information from actors.⁴⁰¹ Then, if the government discovers irregularity or illegality, Articles 97 and 98 authorize relevant state entities to require

Law Enforcement and Prosecutorial Authorities in Bolivia

The primary law enforcement and prosecution authorities charged with fighting illegal mining and other environmental crimes in Bolivia are (1) the Ministry of the Public Prosecutor/Attorney General’s Office, (2) the Forestry and Environmental Police (“POFOMA”), and (3) the Special Police Force in the Fight Against Crime (“FELCC”). Other important law enforcement authorities include the Bolivian customs agency, the Unit of Financial Investigations (tasked with investigating money laundering), and the Special Police Force in the Fight Against Narcotrafficking (insofar as drug interdiction efforts may sometimes uncover evidence of illegal gold mining and/or mercury trafficking). Unlike neighboring Peru, Bolivia does not maintain a specialized prosecution division strictly devoted to environmental crimes.

infringing actors to take “necessary measures to correct irregularities”; and these same articles authorize the government to take “immediate” responsive measures in case of “imminent danger.”⁴⁰²

The Law of the Environment further establishes consequences for violations of environmental laws and regulations, including: (1) administrative infractions; (2) violations subject to civil actions; and (3) environmental crimes.⁴⁰³ This creates a pyramid of responses that coincide with the severity of illegal actions. In the case

of administrative infractions, the principal consequence is the requirement to repair harm caused.⁴⁰⁴ This is a hugely important requirement in cases involving mercury contamination, but it is not clear that the state is prioritizing this remedy. Civil actions can be brought that result in indemnification and compensation to affected parties and the state.⁴⁰⁵

Regarding environmental crimes as such, the Law of the Environment sets forth (1) water pollution, with a criminal penalty of one to four years imprisonment;⁴⁰⁶ (2) industrial waste disposal or commercialization, with a penalty of two years imprisonment;⁴⁰⁷ and (3) toxic waste import or transport, with a penalty of ten years imprisonment.⁴⁰⁸

⁴⁰⁰ Law 1333 of 1992 (Law of the Environment), Art. 90 (emphasis added).

⁴⁰¹ Law 1333 of 1992 (Law of the Environment), Arts. 95 and 96.

⁴⁰² Law 1333 of 1992 (Law of the Environment), Arts. 97 and 98.

⁴⁰³ See *generally* Law 1333 of 1992 (Law of the Environment), Arts. 99-115.

⁴⁰⁴ Law 1333 of 1992 (Law of the Environment), Arts. 99-101.

⁴⁰⁵ Law 1333 of 1992 (Law of the Environment), Art. 102.

⁴⁰⁶ Law 1333 of 1992 (Law of the Environment), Art. 107.

⁴⁰⁷ Law 1333 of 1992 (Law of the Environment), Art. 112.

⁴⁰⁸ Law 1333 of 1992 (Law of the Environment), Art. 113.

5. The Role of the Central Bank and More on Co-ops

While Bolivia has not enacted many laws or policies related to gold mining using mercury in particular—and especially in the vein of complying with the Minamata Convention—it has passed laws relevant to the purchase of gold by the government in order to strengthen its international reserves.⁴⁰⁹ However understandable these laws may be from an economics perspective, they may well work at cross-purposes with the Minamata Convention, as they incentivize more gold mining and—given the lack of regulations and oversight—mercury use by extension.

- **Law 1503 of 2023 (Law of Purchase of Gold Destined for the Strengthening of International Reserves)**

Law 1503 of 2023 was specifically passed to authorize the purchase of gold mined within Bolivia by the Bolivian Central Bank to strengthen international reserves.⁴¹⁰ Notably, the law provides for the refinement outside the country of gold mined in Bolivia for purposes of quality control.⁴¹¹

Previously the government also issued, related specifically to the purchase of gold from mining co-ops, Supreme Decree 1327 of 2012. In addition, the Ministry of Mining and Metallurgy passed Ministerial Resolution 118 of 2018, raising the limits of the amount of gold that mining co-ops can sell.⁴¹² While these regulations were already on the books and arguably incentivized mercury use in gold mining in their own right, Law 1503 of 2023 opened an additional set of flood gates.

- **ASGM and Its Control by Mining Co-ops**

Regarding artisanal and small-scale gold mining, Ministerial Resolution (Ministry of Mining and Metallurgy) 167 of 2017 gave the National Service for the Registration and Control of the Marketing of Minerals and Metals (SENERECOM) the duty of regulating “the scope and control of the marketing of gold from marginal deposits, its procedures, and small-scale mining.”⁴¹³

Despite what could be read as direct oversight of small-scale miners by SENERECOM, Resolution 167 provides that all gold sales go through mining title holders or, almost certainly more often, mining co-ops: “Individuals may only trade gold if they are the holders of the title, or on behalf of a cooperative as provided.”⁴¹⁴ This is another example of the expansive power that the mining co-op system holds in Bolivia. And, in practice, it means that ASGM is effectively controlled by the mining co-ops.⁴¹⁵ (See also SENERECOM Directory Resolution 07 of 2017, approving the procedure for the registry and control of the commercialization of gold from

⁴⁰⁹ Bolivia is going through an economic crisis that has depleted its international reserves and limited its access to US dollars. See, e.g., “Crisis in Bolivia: The government had to sell gold to guarantee fuel imports and maintain subsidies,” Infobae, Feb. 6, 2025, <https://www.infobae.com/america/america-latina/2025/02/07/crisis-en-bolivia-el-gobierno-debio-vender-oro-para-garantizar-las-importaciones-de-combustible-y-mantener-los-subsidios/>.

⁴¹⁰ See generally Law 1503 of 2023.

⁴¹¹ Law 1503 of 2023, Art. 7.

⁴¹² Ministerial Resolution (Ministry of Mining and Metallurgy) 118 of 2018.

⁴¹³ Ministerial Resolution (Ministry of Mining and Metallurgy) 167 of 2017, Art 1.

⁴¹⁴ Ministerial Resolution (Ministry of Mining and Metallurgy) 167 of 2017, Art 2.

⁴¹⁵ Note, for example, that individual small-scale miners are to provided insurance by the mining coop they work with. Ministerial Resolution (Ministry of Mining and Metallurgy) 167 of 2017, Art 6.

“marginal” and small-scale mines.) Again, SENERECOM establishes that small-scale miners, whether associates of co-ops or not, must pass through a mining co-op to sell gold.⁴¹⁶

6. General Mining Laws and Regulations Relevant to Mercury Use

Law 535 of 2014 is the general mining code in Bolivia. Although relatively comprehensive, in the main it does not speak to gold mining and much less to the use of mercury. That said, it contains a few relevant provisions.

First, Law 535 includes in its “principles” the requirement of “social responsibility in the use of mining resources within the framework of sustainable development, aimed at improving the quality of life of Bolivians” as well as “protection of indigenous nations and peoples in situations of high vulnerability.”⁴¹⁷ On the latter front, Law 535 provides for the “participation of indigenous and peasant nations and peoples” in the benefits of mining in their territories.⁴¹⁸

In terms of administration, Law 535 created the Mining Administrative Jurisdictional Authority (AJAM) and made it “responsible for the management, senior administration, control, and oversight of mining activity throughout the state.”⁴¹⁹ Specifically, AJAM was (and is) charged with approving and revoking mining licenses.⁴²⁰ Of special significance to mercury-based gold mining, AJAM National and Regional Directors are made responsible for “monitoring compliance with environmental obligations and sanctions for non-compliance.”⁴²¹

Regarding marketing and commercialization, Law 535 created the SENARECOM (discussed above in connection with the agency’s relationship with ASGM actors and mining co-ops).⁴²² SENARECOM is charged with “monitoring compliance with legal regulations governing the domestic and foreign marketing of minerals and metals.”⁴²³ It is given the power to “sanction violations of marketing regulations administratively” and to “denounce and send” to the Public Prosecutor’s Office facts related to suspected crimes.⁴²⁴ Thus, at least as a matter of the law as written, SENARECOM has an important role in the identification and penalization of miners operating illegally.

Law 535 also speaks to mining rights, noting that “[m]ining rights grant rights holders the power to prospect, explore, exploit, concentrate, smelt, refine, industrialize, and market mineral resources through their own and complementary mining activities in all or part of the mining production chain.”⁴²⁵ Regarding environmental protections and with the exception of pre-existing mining operations, Law 535 states: “In the vicinity of watershed headwaters, lakes, rivers, springs, and reservoirs, restrictions will be implemented in accordance with Environmental Studies with a

⁴¹⁶ SENERECOM Directory Resolution 07 of 2017.

⁴¹⁷ Law 535 of 2014, Title I, Ch. II, Art. 5.

⁴¹⁸ Law 535 of 2014, Title I, Ch. III, Art. 19.

⁴¹⁹ Law 535 of 2014, Title II, Ch. III, Section I, Art. 39. Note that Ministry of Mines and Metallurgy also exercises a supervisory role in this area.

⁴²⁰ Law 535 of 2014, Title II, Ch. III, Section I, Art. 40.

⁴²¹ Law 535 of 2014, Title II, Ch. III, Section II, Art. 56.

⁴²² Law 535 of 2014, Title II, Ch. V, Art. 85.

⁴²³ Law 535 of 2014, Title II, Ch. V, Art. 87.

⁴²⁴ Law 535 of 2014, Title II, Ch. V, Art. 87.

⁴²⁵ Law 535 of 2014, Title III, Ch. I, Art. 92.

multi-sectoral approach.”⁴²⁶ It is unclear based on desk research whether these “Environmental Studies” occur with any regularity in the context of gold mining.

Regarding illegal mining, Law 535 states: “Anyone who carries out mineral resource exploitation activities without the authorization or right granted under this Law commits illegal exploitation. The criminal penalties established by law must include the obligation to return the value of the extracted minerals to the State and to comply with the corresponding royalty and tax obligations.”⁴²⁷ Furthermore, Law 535 authorizes the Ministry of Mines and Metallurgy in coordination with AJAM to carry out “confiscation or destruction of the machinery used” as well as to present complaints to the Public Prosecutor for the application of criminal sanctions.⁴²⁸ The law also provides mechanisms for the extinction and suspension of mining rights.⁴²⁹

In another provision that may or may not receive much attention in practice, Law 535 provides for prior consultation for Indigenous and Afro-Bolivian communities when miners seek to operate in their traditional territories.⁴³⁰

As concerns general environmental compliance, Law 535 makes mining rights holders responsible for complying with environmental norms and for obtaining an environmental license.⁴³¹ Surprisingly, however, Law 535 contemplates mining activity in protected areas, so long as done in compliance with environmental norms and so long as the mining activity does not affect the objectives of the protected areas.⁴³²

- **Law 1140 of 2018: Amending Law 535 of 2014 to Regulate Mining Cooperatives**

Law 1140 of 2018 was passed “with the purpose of regulating relations between the State and mining cooperatives.”⁴³³ It establishes the Cooperative Supervisory and Control Authority (AFCOOP), which “will exercise control and oversight over compliance with the character and nature of mining cooperatives.”⁴³⁴ Law 1140 requires that mining co-ops submit reports to AFCOOP on management, finances, and membership (or face penalties for failing to do so).⁴³⁵ Furthermore, it establishes that Cooperative Mining Contracts will be signed between the Mining Corporation of Bolivia (COMIBOL) and the mining co-ops.⁴³⁶ While the law as a whole seems to envision stronger state control over co-ops—including through a new oversight body, the AFCOOP—this is another area where impact in practice is difficult to gauge.

⁴²⁶ Law 535 of 2014, Title III, Ch. I, Art. 93.

⁴²⁷ Law 535 of 2014, Title III, Ch. I, Art. 104.

⁴²⁸ Law 535 of 2014, Title III, Ch. I, Art. 104.

⁴²⁹ See *generally* Law 535 of 2014, Title III, Ch. II.

⁴³⁰ See *generally* Law 535 of 2014, Title VI.

⁴³¹ Law 535 of 2014, Title VI, Ch. III, Art. 219.

⁴³² Law 535 of 2014, Title VI, Ch. III, Art. 220.

⁴³³ Law 1140 of 2018, Art. 1.

⁴³⁴ Law 1140 of 2018, Art. 2.

⁴³⁵ Law 1140 of 2018, Art. 3.

⁴³⁶ Law 1140 of 2018, Art. 4.

7. Mining in Protected Areas

The General Regulation of Protected Areas establishes the possibility of productive activities within some protected areas (Articles 8 and 9), but also provides for indemnification, relocation, and compensation for harm caused (Article 10).⁴³⁷ Likewise, illegal occupation of protected areas is prohibited, and violation of this prohibition can result in confiscation as well as other measures.⁴³⁸ The regulation also delineates administrative infractions, including mineral extraction, that can result in fines and confiscation.⁴³⁹

While the General Regulation of Protected Areas is itself somewhat ambiguous as to mining in protected areas (the term “productive activities” is not well defined), Law 535 (the Law of Mining and Metallurgy, discussed above) makes it clear that mining can, in fact, occur within protected areas. Because Law 535 was promulgated after the General Regulation of Protected Areas (2014 versus 2010) and a “Law” is juridically superior to a “Decree or Regulation,” there is no question that Law 535 controls in this area.

Allowing mining in protected areas is of course controversial and, if conducted at any but the most artisanal of scales, runs afoul of IUCN standards. At the very least, Bolivia should amend Law 535 to (1) prohibit gold mining using mercury, and (2) establish clear parameters to limit gold mining to the smallest scale possible, especially in alluvial areas (e.g., to allow only panning by IPLCs that have historically engaged in this practice).

8. Additional Civil and Criminal Penalties for Illegal Mining

In addition to the civil and criminal penalties contained in the relevant laws discussed above, new criminal sanctions were set by Law 367 of 2013 (Incorporation of Crimes of Illegal Exploitation and Subjugation into the Criminal Code). This law incorporates three new crimes into the criminal code. First, regarding subjugation, Law 367 provides: “Anyone who, for any reason, occupies a mining area through violence, threats, deception, or any other means, preventing the exercise of mining activities or depriving the State and/or holders of mining rights who are legally in possession of them, shall be punished with imprisonment of four (4) to eight (8) years.” Second, regarding illegal exploitation of mineral resources, Law 367 provides: “Anyone who carries out mineral resource exploitation activities without authorization or the right granted within the framework of current regulations shall be punished with imprisonment of four (4) to eight (8) years.” Finally, regarding the illegal sale or purchase of mineral resources, the law provides: “Anyone who sells or purchases mineral resources resulting from subjugation in a mining area or the illegal exploitation of mineral resources shall be subject to imprisonment for three (3) to six (6) years.”

Finally, Law 1093 of 2018 separately provides for punishment of between one- and five-years’ incarceration for “theft and robbery of minerals.”⁴⁴⁰ However, it is unclear how “theft and robbery of minerals” is legally distinct from the crime of illegal extraction of mineral resources under Law 367, the latter of which triggers a higher penalty. If there is not a clear and well-understood

⁴³⁷ Decree 24781 of 2010 (General Regulation of Protected Areas), Arts. 8-10.

⁴³⁸ Decree 24781 of 2010 (General Regulation of Protected Areas), Art. 12.

⁴³⁹ See *generally* Decree 24781 of 2010 (General Regulation of Protected Areas), Chs. II-IV.

⁴⁴⁰ Law 1093 of 2018 (Incorporating the Crime of Theft and Robbery of Minerals into the Criminal Code)

distinction, defense attorneys might argue for the lesser penalty under the rule of lenity (a legal doctrine that requires application of the lesser penalty in cases of statutory ambiguity).

9. Formalization of Mining Activities

Although Bolivia has made some noteworthy efforts to formalize the gold mining sector, it is difficult to conclude that the government has made this a true priority. To be sure, the challenge is enormous: most governments would struggle to make headway in a context where, even setting aside gold mining, informal employment is the norm. According to 2021 ILO data, Bolivia has the largest percentage of informal workers in Latin America, topping out at over 80%.⁴⁴¹ With gold mining a notoriously informal sector nested within a notoriously informal national economy, the task is hardly simple.

Through Supreme Decree 3405 (2017) and Ministerial Resolution 209 (2024), Bolivia has made a pair of efforts to formalize the gold mining sector. However, as explained below, it seems the government may not be pursuing these initiatives with sufficient energy.

• Supreme Decree 3405 of 2017: Creating the Single Miner Registry

In a nod to some degree of formalization, Supreme Decree 3405 of 2017 created the Single Miner Registry considering that “it is necessary for the mining and metallurgical sector to have a registry and computer systems aimed at streamlining the procedures carried out by mining operators in public entities and companies under the supervision of the Ministry of Mining and Metallurgy.”⁴⁴² To that end, it creates a single registry (or RUM) that is obligatory for all mining actors.⁴⁴³ It also creates a Mining and Metallurgical Information System (or SIMM), which is “a comprehensive platform for care, monitoring of procedures, data processing and information of the mining/metallurgic sector.”⁴⁴⁴

Here, too, it is unclear based on desk research whether the RUM has been able to attract a critical mass of previously unregistered and informal gold miners. Because informal gold miners can sell gold to co-ops—and gold subsequently sold by co-ops seems to be treated as legal by the government—there may be insufficient incentives for individual gold miners to participate, particularly if they operate in remote regions.

• Ministerial Resolution 209 of 2024 (Ministry of Mining and Metallurgy)

More recently—and surely motivated in part by Bolivia’s relationship with the Minamata Convention—the National Federation of Mining Cooperatives (FENCOMIN) has worked with the Ministry of Mining and Metallurgy to develop a Plan of Cooperative Mining Formalization.⁴⁴⁵ Unfortunately, it appears that this plan has not yet come to fruition.

⁴⁴¹ Canelas, Carla, and Miguel Niño-Zarazúa. 2022. “Informality and Pension Reforms in Bolivia: The Case of Renta Dignidad.” *The Journal of Development Studies* 58 (7): 1436–58. doi:10.1080/00220388.2022.2061856.

⁴⁴² Supreme Decree 3405 of 2017, p. 1.

⁴⁴³ Supreme Decree 3405 of 2017, Art. 2.

⁴⁴⁴ Supreme Decree 3405 of 2017, Art. 3.

⁴⁴⁵ See Ministerial Resolution 209 of 2024 (Ministry of Mining and Metallurgy), extending the time for the implementation of the formalization plan.

The timeframe for the plan has been extended on multiple occasions since 2021, most recently through Resolution 209 of 2024. Based on this pattern, it is difficult to discern how much progress has been made.

There can be no doubt that the subject matter of the plan—focused on formalization within the reality of the co-op system—is desperately needed. Because co-ops dominate gold mining in Bolivia, formalizing this sector (i.e., increasing its real accountability under the law) is essential to reducing mercury-based gold mining in Bolivia.

10. Closing Thoughts

Bolivian gold mining policy, especially regarding the use of mercury, suffers from several profound problems. This is due to a number of factors, including: (1) lack of sufficiently demanding laws and regulations; (2) lack of enforcement of the laws and regulations that do exist; and (3) a status quo that seems to recognize as legal that which has operated informally or semi-formally for years (especially the system of mining co-ops that dominate the mining landscape).

A Pair of Encouraging Judicial Decisions

Although the Bolivian judiciary has not historically been seen as a leader in the area of environmental rights, 2023 saw two decisions that provide some reason for optimism. Both involved alluvial gold mining using mercury—and in both cases, the court ruled against mining interests. See Plurinational Constitutional Sentence 0616/2023-S2 (July 4, 2023) (upholding judgment against mining operation in Rio Blanco and in favor of an indigenous community for environmental damage, including from the use of mercury, due to gold mining); Departmental Tribunal of Justice, Palo Blancos, La Paz, Bolivia Sentence 004-2023/AP (July 25, 2023) (recognizing, *inter alia*, rights of nature, specifically the rights of the Beni River with respect to mining activity).

While Bolivia has taken an important step forward with the issuance of Supreme Decree 4959 regarding the registering of import, export, and commercialization of mercury, it has not done enough to reduce the flow of mercury into the country and, more to the point, to reduce the use of mercury in gold mining, especially in the ASGM sector.

Bolivian law contains provisions that could be used to punish the use of mercury, including laws and decrees related to penalties for hazardous waste production, transport, and disposal. In addition, Bolivia has other relevant provisions regarding illegal mining

that could be used against the large portion of mining that is done beyond the shadow of the law.

Nevertheless, the dominance of mining co-ops and the power they wield makes reduction and progressive elimination of the use of mercury in gold mining a tall order, to put it mildly. Moreover, Law 1503 of 2023, authorizing increased purchase of gold by the government to strengthen international reserves has only made matters more challenging. Compounding the issue further, Bolivia's laws on mining in protected areas are far too permissive.

Given Bolivia's lack of action, a more aggressive approach to achieving change and to encourage the reduction and eventual elimination of mercury use in gold mining may be in order. What this would look like is an open question. It could include litigation to enforce existing laws that are not

being observed. Some of this litigation is already occurring and has achieved some success (see text box to left).⁴⁴⁶

In addition, more funding is almost certainly needed to aid Bolivia in carrying out projects aimed at mercury reduction. Again, some projects have apparently been developed, but details are scarce.⁴⁴⁷

Arguably, however, what is needed is sweeping, fresh legislation. An across-the-board prohibition of mercury import, export, commercialization, and use could force Bolivia to finally confront its out-of-control problem regarding mercury. Such a law could be done either as an immediately effective prohibition or as a phase-out.

In order to pass any kind of sweeping legislation (and more to the point, to enforce it), Bolivia must develop mechanisms to better control the mining co-op sector. Co-ops should be required to ensure that gold passing through their ranks is mined legally and without the use of mercury. Reform to this effect would almost certainly provoke strong resistance, including extreme protest measures by the affected sector. This kind of situation is nothing new in Bolivian politics, but a coherent plan and the development of strategic alliances with civil society will be necessary if a strong law is to be passed and enforced.

F. Ecuador

Ecuador faces a series of challenges related to gold mining and the use of mercury. These include: (1) impacts on human health and the environment; (2) illegal mining in protected areas; (3) effects on IPLCs; (4) corruption; and (5) organized crime and violence.

Gold mining in Ecuador has had important effects on human health, especially in the ASGM context. Multiple studies have been conducted on this phenomenon. Though not as bad as Bolivia (for example), the situation in Ecuador leaves the child population, in particular, at risk.⁴⁴⁸ Acceptable levels of mercury have been exceeded in the rivers and streams of multiple provinces,⁴⁴⁹ and analysis has found that, in addition to impacts on human health, mercury levels “do not meet the water quality criteria for the preservation of aquatic life.”⁴⁵⁰

⁴⁴⁶ See Plurinational Constitutional Sentence 0616/2023-S2 (July 4, 2023) (upholding judgment against mining operation in Rio Blanco and in favor of indigenous community for environmental damage (including from the use of mercury) due to gold mining). See also Departmental Tribunal of Justice, Palo Blancos, La Paz, Bolivia Sentence 004-2023/AP (July 25, 2023) (recognizing, inter alia, rights of nature, specifically the rights of the Beni River with respect to mining activity).

⁴⁴⁷ See “Presentation of the projects: National Action Plan re: mercury and PlanetGOLD Bolivia,” Ministry of Mining and Metallurgy, Jan. 17, 2023.

⁴⁴⁸ Passarelli, Irene et al., “Analysis of Mercury in Aquifers in Gold Mining Areas in the Ecuadorian Amazon and Its Associated Risk for Human Health,” Feb. 19, 2024. <https://www.mdpi.com/2305-6304/12/2/162>.

⁴⁴⁹ Mestanza-Ramon, Carlos et al., “Human health risk assessment due to mercury use in gold mining areas in the Ecuadorian Andean region,” *Chemosphere*, Dec. 2023. <https://www.sciencedirect.com/science/article/abs/pii/S0045653523026218>.

⁴⁵⁰ Mestanza-Ramon, Carlos et al., “Human health risk assessment due to mercury use in gold mining areas in the Ecuadorian Andean region,” *Chemosphere*, Dec. 2023. <https://www.sciencedirect.com/science/article/abs/pii/S0045653523026218>.

In Ecuador, most mercury pollution used in gold mining is found in the informal sector, in particular in the provinces of Azuay, Sucumbíos, Zamora Chinchipe, and El Oro.⁴⁵¹ Note that in at least one province, an important study was not able to be carried out due to security concerns and armed conflict caused by mining activity.⁴⁵² In addition to informal mining, illegal mining has occurred in protected areas. The situation in the Amazon region is of particular concern because in addition to informal mining, cases of illegal mining have been detected, for example, in protected areas in the Podorcapus National Park and the Cofán Bermejo Ecological Reserve.⁴⁵³

In some areas of Ecuador, ASGM has expanded by leaps and bounds. For example, in the Napo River region, mining activity based on geographical metrics has ballooned by over 200 times, rising from 2.6 hectares in 1996 to 556.8 hectares in 2020.⁴⁵⁴ In these areas, most activity is artisanal and semi-mechanized, and miners do little to observe control measures or comply with regulations.⁴⁵⁵ Gold mining in the Napo province has resulted in a high environmental impact, including by related deforestation and the possibility of species removal and extinction.⁴⁵⁶

To be sure, the Ecuadorian government has taken some important enforcement actions to control illegal mining, including in Yutzupino where significant amounts of equipment and supplies have been confiscated.⁴⁵⁷ However, some observers regard this as just a start and complain of corrupt judges allowing illegal mining to continue.⁴⁵⁸ In addition, as is the case to a greater or lesser extent in all five focus countries, Ecuador suffers from a lack of government presence and resources to adequately carry out oversight and controls in many parts of the country.⁴⁵⁹

Illegal mining in Ecuador is often carried out by criminal syndicates for purposes of money laundering.⁴⁶⁰ Regarding the role of organized crime, the Lobos gang has moved into the illegal

⁴⁵¹ Mestanza-Ramón, Carlos et al., “Gold Mining in Ecuador: Innovative recommendations for the management and remediation of mercury-contaminated waters,” *Green World Journal*, Aug. 31, 2021.

⁴⁵² Mestanza-Ramón, Carlos et al., “Gold Mining in Ecuador: Innovative recommendations for the management and remediation of mercury-contaminated waters,” *Green World Journal*, Aug. 31, 2021.

⁴⁵³ Mestanza-Ramón, Carlos et al., “Gold Mining in Ecuador: Innovative recommendations for the management and remediation of mercury-contaminated waters,” *Green World Journal*, Aug. 31, 2021. *See also* “MAAP #221: Illegal mining in protected areas of the Ecuadorian Amazon,” *Monitoring of the Andes Amazon Program*, Oct. 11, 2024 (showing maps of expanded mining activity in protected areas).

⁴⁵⁴ Panchana, Allen, “Illegal gold mining ‘mafias’ threaten life in an Ecuadorian river,” *Dialogue Earth*, Nov. 8, 2022, <https://dialogue.earth/en/pollution/60366-ecuador-illegal-mining-gold-mafias-threaten-river/>.

⁴⁵⁵ Panchana, Allen, “Illegal gold mining ‘mafias’ threaten life in an Ecuadorian river,” *Dialogue Earth*, Nov. 8, 2022, <https://dialogue.earth/en/pollution/60366-ecuador-illegal-mining-gold-mafias-threaten-river/>.

⁴⁵⁶ Panchana, Allen, “Illegal gold mining ‘mafias’ threaten life in an Ecuadorian river,” *Dialogue Earth*, Nov. 8, 2022, <https://dialogue.earth/en/pollution/60366-ecuador-illegal-mining-gold-mafias-threaten-river/>.

⁴⁵⁷ Panchana, Allen, “Illegal gold mining ‘mafias’ threaten life in an Ecuadorian river,” *Dialogue Earth*, Nov. 8, 2022, <https://dialogue.earth/en/pollution/60366-ecuador-illegal-mining-gold-mafias-threaten-river/>.

⁴⁵⁸ Panchana, Allen, “Illegal gold mining ‘mafias’ threaten life in an Ecuadorian river,” *Dialogue Earth*, Nov. 8, 2022, <https://dialogue.earth/en/pollution/60366-ecuador-illegal-mining-gold-mafias-threaten-river/>.

⁴⁵⁹ “On the Trail of Illicit Gold Proceeds: Strengthening the Fight Against Illegal Mining Finances,” Ecuador, OAS, Dec. 2021, p. 6, <https://www.oas.org/en/sms/dtoc/docs/On-the-trail-of-illicit-gold-proceeds-Ecuador-case.pdf>.

⁴⁶⁰ “On the Trail of Illicit Gold Proceeds: Strengthening the Fight Against Illegal Mining Finances,” Ecuador, OAS, Dec. 2021, p. 6, <https://www.oas.org/en/sms/dtoc/docs/On-the-trail-of-illicit-gold-proceeds-Ecuador-case.pdf>.

mining sector, causing significant violence.⁴⁶¹ Initially, it started by extorting miners for “protection,” and it provided drugs to miners to help them endure their grueling work.⁴⁶² Then the Lobos gradually began to completely take over mining operations.⁴⁶³ Reportedly, corruption has also aided the Lobos’ move into illegal mining, whereby corrupt officials “tip off” miners and gangs to untapped gold deposits and then protect the criminals by failing to act on community complaints and by alerting them to planned security operations.⁴⁶⁴

Criminal gangs, like the Lobos, have expanded operations, which were initially concentrated in the south of the country, into the east. Violence has followed. There have been multiple massacres and even, reportedly, the murder of a local mayor.⁴⁶⁵ In one rescue operation carried out by the government against a Lobos-controlled mining site, authorities found dismembered human remains of miners.⁴⁶⁶ In addition to the Lobos, other gangs, including the Choneros, operate in a similar manner.⁴⁶⁷ These gang and violence problems led former-President Guillermo Lasso to declare illegal gold mining in the Amazon to be a threat to national security.⁴⁶⁸

Despite the challenges, some indigenous communities have begun to take action against illegal mining.⁴⁶⁹ For example, in the Putamayo river region, a group calling themselves the “Indigenous Guard” patrols the area with sophisticated equipment, on the lookout for alluvial gold miners.⁴⁷⁰ In some cases, apart from notifying the state, the Indigenous Guard takes enforcement into its own hands, including the confiscation and destruction of equipment.⁴⁷¹ Based on the research

⁴⁶¹ Austin, Anastasia, “As Government Pressure Mounts, Ecuador’s Gangs Strike Gold,” InSight Crime, Jul. 23, 2024, <https://insightcrime.org/news/as-government-pressure-mounts-ecuadors-armed-gangs-strike-gold/>.

⁴⁶² Austin, Anastasia, “As Government Pressure Mounts, Ecuador’s Gangs Strike Gold,” InSight Crime, Jul. 23, 2024, <https://insightcrime.org/news/as-government-pressure-mounts-ecuadors-armed-gangs-strike-gold/>.

⁴⁶³ Austin, Anastasia, “As Government Pressure Mounts, Ecuador’s Gangs Strike Gold,” InSight Crime, Jul. 23, 2024, <https://insightcrime.org/news/as-government-pressure-mounts-ecuadors-armed-gangs-strike-gold/>.

⁴⁶⁴ Austin, Anastasia, “As Government Pressure Mounts, Ecuador’s Gangs Strike Gold,” InSight Crime, Jul. 23, 2024, <https://insightcrime.org/news/as-government-pressure-mounts-ecuadors-armed-gangs-strike-gold/>.

⁴⁶⁵ Austin, Anastasia, “As Government Pressure Mounts, Ecuador’s Gangs Strike Gold,” InSight Crime, Jul. 23, 2024, <https://insightcrime.org/news/as-government-pressure-mounts-ecuadors-armed-gangs-strike-gold/>.

⁴⁶⁶ Austin, Anastasia, “As Government Pressure Mounts, Ecuador’s Gangs Strike Gold,” InSight Crime, Jul. 23, 2024, <https://insightcrime.org/news/as-government-pressure-mounts-ecuadors-armed-gangs-strike-gold/>.

⁴⁶⁷ Austin, Anastasia, “As Government Pressure Mounts, Ecuador’s Gangs Strike Gold,” InSight Crime, Jul. 23, 2024, <https://insightcrime.org/news/as-government-pressure-mounts-ecuadors-armed-gangs-strike-gold/>.

⁴⁶⁸ “‘Leave the Gold in the Ground’: Ecuador’s Forest Guardians Mobilise Against Illegal Mining in Amazon,” Feb. 2024. <https://amazonfrontlines.org/chronicles/leave-the-gold-in-the-ground-ecuadors-forest-guardians-mobilise-against-illegal-mining-in-amazon/>.

⁴⁶⁹ “‘Leave the Gold in the Ground’: Ecuador’s Forest Guardians Mobilise Against Illegal Mining in Amazon,” Feb. 2024. <https://amazonfrontlines.org/chronicles/leave-the-gold-in-the-ground-ecuadors-forest-guardians-mobilise-against-illegal-mining-in-amazon/>.

⁴⁷⁰ “‘Leave the Gold in the Ground’: Ecuador’s Forest Guardians Mobilise Against Illegal Mining in Amazon,” Feb. 2024. <https://amazonfrontlines.org/chronicles/leave-the-gold-in-the-ground-ecuadors-forest-guardians-mobilise-against-illegal-mining-in-amazon/>.

⁴⁷¹ “‘Leave the Gold in the Ground’: Ecuador’s Forest Guardians Mobilise Against Illegal Mining in Amazon,” Feb. 2024. <https://amazonfrontlines.org/chronicles/leave-the-gold-in-the-ground-ecuadors-forest-guardians-mobilise-against-illegal-mining-in-amazon/>.

conducted for this report, it is unclear whether these Indigenous Guards act with the authorization, whether tacit or explicit, of the Ecuadorian government.

1. Introduction to Law and Policy Response

Ecuador's legal response to the use of mercury in gold mining, particularly within the artisanal and small-scale context, reveals a complex interplay between explicit prohibition and persistent illegal activity. While the country enacted a clear, comprehensive ban on mercury use in mining operations through its 2013 Mining Reform, national assessments readily acknowledge the significant gap between this legal mandate and the reality of continued clandestine use, especially in informal sectors.⁴⁷² This highlights a central challenge, present in Ecuador no less than the other focus countries: implementing and enforcing environmental and mining regulations across a diverse and often difficult-to-reach sector.

Notably, Ecuador's effort to eliminate the use of mercury in mining has occurred within a distinct constitutional framework established in 2008, which recognizes the Rights of Nature and mandates strong protections for IPLC rights, including free, prior, and informed consent regarding resource exploitation affecting their territories, aligning with ratified international standards like those in ILO Convention 169.⁴⁷³

Building on this foundation, Ecuador has employed a multi-pronged strategy that extends beyond the ban itself, leveraging administrative sanctions like the revocation of mining rights, substantial criminal penalties under the Penal Code for related offenses like illicit mining and environmental damage, stringent controls over mercury imports, and comprehensive environmental liability frameworks.⁴⁷⁴

Ultimately, this multifaceted legal architecture underscores a strategy attempting to tackle the issue through deterrence, supply restriction, and accountability, while implicitly acknowledging, through extensive formalization plans detailed in the National Action Plan on the use of Mercury in Artisanal and Small Scale Gold Mining in Ecuador (2020 NAP) and elsewhere, that punitive

⁴⁷² See generally Gobierno de Ecuador, Ministerio del Ambiente y Agua, *Plan de Accion Nacional sobre el uso de Mercurio en la Minería Artesanal y de Pequeña Escala de Oro en Ecuador* [hereinafter 2020 NAP] (May 2020) (submitted under the Minamata Convention on Mercury) (the findings, data, and overall analysis included in the 2020 NAP, which includes various prior studies, reports, and data collected by regulatory agencies, etc.) <https://minamataconvention.org/en/documents/national-action-plan-ecuador-2020>

⁴⁷³ Constitución de la República del Ecuador (2008), arts. 57.7, 71–74; *Convention Concerning Indigenous and Tribal Peoples in Independent Countries* (ILO No. 169), June 27, 1989, 28 I.L.M. 1382. https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169

⁴⁷⁴ See, e.g., Ley de Minería, Registro Oficial Suplemento 517, Jan. 29, 2009, art. 17 (Ecu.) (reformed by the Ley Orgánica reformatoria a la Ley de Minería (Ecu. 2013) (prohibiting mercury use and providing for revocation of mining rights as a sanction); Código Orgánico Integral Penal, art. 260 (establishing criminal penalties for illicit mining activity), art. 251 (establishing criminal penalties for crimes against water); Import and Transfer Regs for Mercury (Ecu. 2013) (establishing requirements and procedures for import licenses and transfer/consumption authorizations); Constitución de la República del Ecuador, arts. 14, 71-73, 396-397 (establishing the right to a healthy environment, rights of nature, and State duties regarding environmental damage and restoration); Decreto 121 (Ecu. 2009) (establishing environmental management rules for mining activities).

measures alone may be insufficient without addressing the socio-economic drivers of informal mining.⁴⁷⁵

2. Ecuador's Prohibition on the Use of Mercury in Mining

Ecuadorian law prohibits the use of mercury in all mining operations, including gold mining.⁴⁷⁶ The law does not appear to contemplate any exceptions (e.g., for subsistence goldminers).

Procedurally, the law was passed in July 2013 as part of several reforms to Ecuador's Mining Law. The reform package included a prohibition of the use of mercury in mining operations, due to its toxicity to human health and its impact on the environment.⁴⁷⁷ However, a transitory provision in the law provided a two-year period for the adoption of alternative methods to eliminate the use of mercury in mining.⁴⁷⁸ Thus, the prohibition of mercury in mining came into full effect in 2015. Although the use of mercury in mining is prohibited, it is still legal to use for other purposes, subject to strict regulations.

3. Ecuador's Regulatory Framework Governing Imports and Permitted Uses of Mercury

Ecuador regulates and aims to minimize the import of mercury through a licensing and authorization system overseen by the Ministry of Environment, Water and Ecological Transition. The Regulation Establishing the Requirements and Procedures for Obtaining Import Licenses and Authorizations for the Transfer and Consumption of Mercury (in Spanish, *el Reglamento sobre los Requisitos y Procedimientos para la Obtención de Licencias de Importación y Autorizaciones para la Transferencia y Consumo de Mercurio*) ("Import and Transfer Regulations for Mercury") outlines the requirements and procedures for obtaining import licenses, as well as authorizations for the transfer and use of mercury.⁴⁷⁹ At least in theory, this licensing process allows the Ecuadorian government to evaluate each proposed mercury import on a case-by-case basis, considering its purpose, quantity, and source in alignment with the principles of the Minamata Convention and associated policy goals.

To obtain an import license, importers must fulfill several requirements.⁴⁸⁰ These include providing notarized copies of identification documents, proof of legal representation, contracts with authorized transportation and storage companies, and designation of a qualified technical manager.⁴⁸¹ Importers must also have an updated Single Taxpayer Registry and an environmental

⁴⁷⁵ 2020 NAP, §§ 2.5.1 & 3.1.

⁴⁷⁶ Ley Orgánica reformativa a la Ley de Minería, art. 17 (Ecu. 2013).

⁴⁷⁷ 2020 NAP, 16.

⁴⁷⁸ Ley Orgánica reformativa a la Ley de Minería, Third Trans. Prov. (Ecu. 2013).

⁴⁷⁹ See generally Reglamento en el que se Establecen los Requisitos y Procedimientos para la Obtención de Licencias de Importación y Autorizaciones para la Transferencia y Consumo de Mercurio [hereinafter Import and Transfer Regs for Mercury] (Ecu. 2013). <https://www.ambiente.gob.ec/wp-content/uploads/downloads/2013/12/Reglamento-importaci%C3%B3n-y-transferencia-de-mercurio-25-11-2013.pdf>.

⁴⁸⁰ *Id.* art. 3 (Ecu. 2013).

⁴⁸¹ *Id.* arts. 3.1(a), 3.1(b), 3.1(c), 3.1(d) (Ecu. 2013).

license or proof of environmental compliance.⁴⁸² A maximum of 1 ton per import license can be requested, and the license is valid for two months and a single shipment.⁴⁸³

The regulations also establish a process for obtaining authorizations for the transfer and use of mercury.⁴⁸⁴ The transfer of mercury can only occur between authorized individuals or companies.⁴⁸⁵ Those who wish to acquire mercury for purposes other than mining (a use that is prohibited), or to transfer it to other parties, must also be authorized.⁴⁸⁶ To obtain the authorization, the applicant must meet a number of requirements, including providing a copy of the environmental license for the activity in which the mercury will be used.⁴⁸⁷

4. Civil and Administrative Penalties for Illegal Mining and Violations of Ecuador's Mercury Regime

Ecuadorian law contemplates administrative and civil penalties for the illegal or unauthorized use of mercury. Key administrative sanctions stem from the country's Mining Law and its reforms.⁴⁸⁸ The 2013 Mining Reform authorizes the revocation of mining rights as a sanction for non-compliance with the prohibition on using mercury in mining operations.⁴⁸⁹ Furthermore, the Mining Law grants the Mining Regulation and Control Agency the authority to impose sanctions for illegal mining activities conducted without the required titles or permits; these sanctions include administrative fines applicable to the individuals or legal persons responsible, as well as the confiscation, seizure, immobilization, or destruction of machinery, equipment, vehicles, and minerals involved in such unauthorized operations.⁴⁹⁰ Other violations of the Mining Law not leading to the revocation of mining rights can also incur administrative fines.⁴⁹¹

Similarly, violating the Import and Transfer Regulations for Mercury can result in administrative sanctions like seizure of the mercury in question and suspension or

Tension Between Maximum Import Amounts and Prohibition of Mercury in Mining

Although the possibility of importing up to one ton of mercury does not directly clash with the prohibition of using mercury for mining (as mercury is used in several non-mining applications), the relatively generous one-ton limit does raise questions. In practice, it is possible that mercury imported ostensibly for non-mining purposes is siphoned off to illegal use in gold mining. Tight controls over the supply chain, from the moment of import to ultimate use, would seem necessary to mitigate this risk.

⁴⁸² *Id.* arts. 3.1(e), 3.1(f) (Ecu. 2013).

⁴⁸³ *Id.* Disp. Gen. Sexta (Ecu. 2013).

⁴⁸⁴ *Id.* art. 4 (Ecu. 2013).

⁴⁸⁵ *Id.* art. 7 (Ecu. 2013).

⁴⁸⁶ *Id.* arts. 4.1, 4.2, 4.3, 9 (Ecu. 2013).

⁴⁸⁷ *Id.* arts. 4.1, 4.3(b) (Ecu. 2013).

⁴⁸⁸ See generally Ley de Minería (Ecu. 2009).

⁴⁸⁹ Ley Orgánica reformatoria a la Ley de Minería, art. 17 (Ecu. 2013).

⁴⁹⁰ Ley de Minería, art. 57 (Ecu. 2009) (administrative fines range from 200 to 500 Unified Basic Salaries, which are referred to in the law as “salarios básicos unificados del trabajador en general.” A Unified Basic Salary represents the nationally mandated minimum monthly wage applicable to all private-sector workers in Ecuador. It is set annually by the Ministry of Labor.

⁴⁹¹ *Id.* Disp. Gen. Segunda.

annulment of handling authorizations, alongside potential environmental penalties, such as fines and remediation orders.⁴⁹²

Beyond these administrative penalties tied to mining regulations, significant civil liabilities exist, particularly concerning environmental damage. Both the Mining Law and the Environmental Regulations for Mining Activities establish the legal responsibility of mining operators to prevent environmental harm and to restore affected ecosystems.⁴⁹³ This includes the obligation to repair and provide compensation for damages caused by pollution, including that resulting from mercury use, reflecting the state's and operators' responsibilities under the constitutional provisions concerning rights of nature and the right to a healthy environment.⁴⁹⁴

Finally, overarching norms like the strict prohibition of child labor in any mining activity—and laws banning forced or coerced labor regardless of sector—form part of the legal context surrounding both legal and illegal mining operations.⁴⁹⁵

5. Criminal Penalties for Illegal Mining and Violations of Ecuador's Mercury Regime

While Ecuador's Penal Code does not explicitly, by name, criminalize unlawful use of mercury, it effectively does through its various provisions (drafted as “*delitos penales en blanco*”) concerning unlawful mining and unlawful use of hazardous chemicals. Specifically, Article 260 sanctions unauthorized mining activities (including extraction, exploitation, processing, transport, etc.) without required permits, which covers operations illegally using prohibited substances like mercury.⁴⁹⁶ The unauthorized management (production, transport, storage, use, etc.) of dangerous chemical substances like mercury is further penalized under Article 254, with higher penalties applying in the case of serious environmental damage.⁴⁹⁷

Penalties under Ecuador's Penal Code include both deprivation of liberty (a term of art that covers not only imprisonment but also house arrest and probation) and criminal fines. The penalties differ significantly depending on whether the offender is an individual or a company.

For natural persons (individuals), convictions typically trigger the possibility of both deprivation of liberty and a criminal fine. The specific prison terms vary by offense, such as 5-7 years for illicit mining, 1-3 years for illicit artisanal mining, 7-10 years if environmental damage results from illicit mining, 3-5 years for financing illicit mining, or 1-3 years for unauthorized handling of dangerous substances causing serious environmental damage, with higher terms if death occurs.⁴⁹⁸ The

⁴⁹² Código Orgánico Integral Penal, arts. 251, 252, 253, 254, 282 (Ecu. 2014); Import and Transfer Regs for Mercury, arts. 12, 13, 14, 15 (Ecu. 2013); Disp. Gen. Decima Segunda (Ecu. 2013).

⁴⁹³ Ley de Minería, arts. 86, 109 (Ecu. 2009); Decreto 121, arts. 5, 51, 105 (Ecu. 2009).

⁴⁹⁴ Constitución de la República del Ecuador (2008), arts.14, 71-74.

⁴⁹⁵ Ley de Minería, art. 69 (Ecu. 2009); Decreto 121, art. 2 (Ecu. 2009).

⁴⁹⁶ Código Orgánico Integral Penal, art. 260 (Ecu. 2014).

⁴⁹⁷ *Id.* art. 254.

⁴⁹⁸ *Id.* art. 260 (providing penalties for illicit mining, illicit artisanal mining, and illicit mining causing environmental damage), art. 261 (providing penalties for financing illicit mining), art. 254 (providing penalties for unauthorized handling of dangerous substances).

accompanying criminal fine for individuals is calculated based on the prison term length and expressed in a measure representing a “Unified Basic Salary.”⁴⁹⁹

In contrast, legal persons (companies/entities) face different sanctions instead of imprisonment.⁵⁰⁰ These primarily include substantial criminal fines, also calculated in “Unified Basic Salaries,” and potentially other measures like temporary or permanent closure, dissolution, or prohibition from contracting with the State.⁵⁰¹ Significantly, the legal framework assigns responsibility not only to those directly conducting illegal activities but also holds legitimate title holders accountable if they permit illegal mining by others within their concession areas.⁵⁰²

6. Ecuador’s Formalization Strategy

Ecuador’s strategy to formalize artisanal and small-scale gold miners, which is detailed extensively in its 2020 NAP and furthered by the Mining Law and associated regulations, focuses on simplifying legal pathways and providing targeted state support.⁵⁰³ To understand Ecuador’s formalization strategy, however, it is helpful to first understand how Ecuadorian law divides up the world of miners and mining activities, as these high-level divisions translate to different regulatory treatment on a variety of fronts.

Ecuador’s Mining Law establishes distinct categories for mining activities, principally determined by operational scale, considering factors such as daily production volumes, investment levels, technology employed, and deposit characteristics.⁵⁰⁴ “Artisanal mining” is characterized by permitted operations in free areas where individuals or small community or family units use equipment with limited capacity to generate revenue with the primary aim of covering their basic needs; while exempt from royalties, these miners are subject to taxes.⁵⁰⁵ Conversely, “small-scale mining” operations require a formal concession granted to individuals or companies for direct exploitation at a higher production capacity and involve reporting requirements.⁵⁰⁶ Both artisanal

⁴⁹⁹ *Id.* art. 70 (Unified Basic Salaries are referred to in the law as “salarios básicos unificados del trabajador en general.” A Unified Basic Salary represents the nationally mandated minimum monthly wage applicable to all private-sector workers in Ecuador. It is set annually by the Ministry of Labor.).

⁵⁰⁰ *Id.* art. 71. Regarding violations by corporations and other legal entities, it is not entirely clear (from a desk review) how Ecuadorian criminal law would treat misconduct by an employee or officer of a mining firm, especially if the employee or officer held a supervisory, management, or decision-making position. It seems most logical to posit that an employee of a company in such circumstances could be subject to the penalties applying to natural persons while, simultaneously, the company could be held liable under the provision for legal entities. Further research would be necessary to confirm the accuracy of this understanding.

⁵⁰¹ *Id.* arts. 71, 258, 267 (providing, for example, fines of 100-1000 “Unified Basic Salaries” for certain environmental crimes under article 258, fines of 500-1000 “Unified Basic Salaries” for certain resource crimes under article 267, and other measures like closure under article 71).

⁵⁰² Ley Orgánica reformatoria a la Ley de Minería, art. 12 (Ecu. 2013).

⁵⁰³ Ley de Minería (Ecu. 2009); Reglamento del Régimen especial de pequeña minería y minería artesanal [Regulation of the Special Regime for Small Mining and Artisanal Mining], Decreto No. 120, Registro Oficial, Suplemento 67, Nov. 16, 2009 (Ecu.) [hereinafter Decreto 120] <https://www.gob.ec/regulaciones/reglamento-regimen-especial-pequena-mineria-mineria-artesanal-decreto-ejecutivo-no-120>; 2020 NAP, § 2.5.1 & 3.1.

⁵⁰⁴ Ley de Minería, art. 138; Ley Orgánica reformatoria a la Ley de Minería, art. 23.

⁵⁰⁵ Ley Orgánica reformatoria a la Ley de Minería, art. 24.

⁵⁰⁶ Ley de Minería, art. 139; Ley Orgánica reformatoria a la Ley de Minería, arts. 26, 27.

and small-scale mining stand apart from the “medium” and “large-scale” categories, which are defined by substantially greater production capacities, progressively higher royalty rates, and, especially for large-scale operations, often entail more comprehensive exploitation contracts.⁵⁰⁷

The Ecuadorian government aims to improve the framework for obtaining formal status through artisanal mining permits (intended to be simple and no-cost) or small mining concessions.⁵⁰⁸ This includes plans to potentially automate processes, update the national mining cadaster (i.e., registry), and conduct a comprehensive census to better understand and target the sector, as well as efforts to formally recognize and integrate vulnerable groups like “*jancheras*” (female miners, often engaged in collecting mineral waste).⁵⁰⁹ Another pillar of Ecuador’s strategy, which is mandated by law and detailed in regulations, involves technical assistance and training programs covering legal compliance, mercury-free techniques, environmental management, safety, and business skills.⁵¹⁰

Several incentives are designed to encourage participation in the formal system. Formalized artisanal miners benefit from exemptions from mining royalties and annual patent fees, coupled with simplified permit application processes.⁵¹¹ For both artisanal and small miners, the state aims to improve access to finance by identifying suitable financial products, potentially creating accreditation systems linked to formal status, implementing financing plans via public banks, and piloting competitive funds like “*Fondos Concursables*.”⁵¹² Additional incentives include state support for simplified environmental compliance processes and efforts to enhance market access through the promotion of fair trade practices and socio-environmental certifications for responsibly mined gold.⁵¹³ Receiving these benefits is generally linked to miners demonstrating compliance with legal requirements and good operational practices.⁵¹⁴

7. Traceability Efforts

Ecuador does not currently have an established national traceability mechanism from mine to market, but its desire to ensure mercury-free gold is made apparent by its efforts to promote certifications and control commercialization within the mining sector. The 2020 NAP outlines a strategy to improve formalized miners’ access to better markets, which includes identifying existing voluntary certifications for responsibly produced gold and promoting their adoption.⁵¹⁵ Importantly, the 2020 NAP also proposes studying the feasibility of establishing a national certification for sustainably produced gold, which would inherently require traceability to verify production standards, including being mercury-free.⁵¹⁶

⁵⁰⁷ Ley de Minería, art. 41; Ley Orgánica reformatoria a la Ley de Minería, arts. 18, 23, 27

⁵⁰⁸ Ley de Minería, arts. 134, 139 (Ecu. 2009); NAP 2020, §§ 2.5.1 & 3.1.

⁵⁰⁹ NAP 2020, §§ 2.5.1 & 3.1.

⁵¹⁰ Ley de Minería, art. 136 (Ecu. 2009); Decreto 120, art. 27, 51 (Ecu. 2009); NAP 2020, §§ 2.5.1, 2.5.2.

⁵¹¹ Ley de Minería, art. 134 (Ecu. 2009).

⁵¹² Decreto 120, art. 30 (Ecu. 2009); 2020 NAP, §2.5.1.

⁵¹³ Decreto 120, arts. 31-33 (Ecu. 2009); 2020 NAP, §2.5.1.

⁵¹⁴ Decreto 120, art. 8 (Ecu. 2009).

⁵¹⁵ 2020 NAP, § 2.5.1.

⁵¹⁶ *Id.* § 2.5.1(d)(3).

While a dedicated traceability system has not been created, existing regulations currently provide some foundation for tracking mineral flows.⁵¹⁷ Ecuador's Mining Law requires licenses for those commercializing or exporting minerals, and it mandates that these licensed sellers and exporters report semi-annually on the origin, volume, and value of their transactions.⁵¹⁸ Furthermore, the Central Bank of Ecuador plays a role in the commercialization of gold from small-scale and artisanal mining.⁵¹⁹ While these measures contribute in part to tracking legal gold sales, they do not amount to a specific mechanism designed to trace and verify gold as definitively "mercury-free" throughout the supply chain. The main documented effort points towards leveraging market access through potential future certifications.

The establishment of the Andean Observatory may also become increasingly relevant to Ecuador's efforts to ensure mercury-free gold. As discussed earlier, this observatory aims to collect and track information on the production, import,

Legal Miners as Allies in the Fight Against Illegal Gold Mining?

To support legal mining operations, Ecuadorian law provides for a special variety of "*Amparo Administrativo*," a mechanism allowing legitimate title holders to request state intervention via the Mining Regulation and Control Agency to stop invasions or other disturbances by unauthorized parties. See Ley de Minería, art. 63 (Ecu. 2009).

It is unclear whether or to what extent this mechanism has been used in response to illegal or informal gold miners operating on lands subject to a formal mining title or concession.

⁵¹⁷ On the topic of traceability, it is worth noting the significant efforts that have been made in connection with other complex supply chains associated with environmental crime and human-rights violations. Globally, sectors that have seen some success in improving traceability include the timber and fisheries industries. Regionally, Brazil has also seen a significant traceability effort emerge around the cattle industry, with a focus on beef and leather. See, for example, the work of the Global Land Use and Environment Lab at the University of Wisconsin: <https://gibbs-lab.wisc.edu/tracing-commodity-supply-chains.html>. The Brazilian cattle industry has come under scrutiny in recent years for its association with illegal deforestation and forced labor. In 2023, for instance, United States Senator Ron Wyden requested information from the Lear Corporation, supplier of leather for certain U.S. auto firms, in connection with a congressional probe focused on environmental and human rights violations in the front end of the supply chain (i.e., conditions in Brazil). See <https://www.washingtonpost.com/business/2023/07/25/leather-car-supply-chain-forced-labor/>. Significantly, consumer countries—not just for cattle products but also for timber goods and gold—have the potential to play a strong role in assisting source countries to clean up their supply chains. For example, Section 307 of the Tariff Act of 1930 (19 U.S.C. § 1307), prohibits importing to the U.S. any product mined, produced, or manufactured wholly or in part by forced labor. Under this law, U.S. officials have the authority to seize and seek civil forfeiture of any offending products. Although this law does not address mercury or other environmental issues in mining, it shows the basic policy logic of consumer countries doing their part to ensure their market power does not contribute to problems in source countries. This basic approach has seen marked success in the global marine fish and seafood industry. As major consumer markets, the U.S. and the European Union have both recognized the power they possess to mitigate the problem of illegal, unregulated, and undeclared (IUU) fishing by working to ensure that fisheries products derived from forced labor or slavery do not end up in U.S. or E.U. restaurants and supermarkets. For the EU, these efforts include the EU IUU Regulation, including its traceability scheme and its "carding" system. In the U.S., the Seafood Import Monitoring Program and the High Seas Driftnet Fishing Moratorium Protection Act similarly work to screen out products of illegal provenance. Although research for this report did not include investigation of consumer country regulations vis-à-vis gold (or traceability in the broader sense), this is clearly an area of crucial importance to global mercury and gold policy.

⁵¹⁸ Ley de Minería, arts. 50, 53 (Ecu. 2009).

⁵¹⁹ Ley Orgánica reformatoria a la Ley de Minería, art. 49 (Ecu. 2013).

export, commercialization, transport, and use of mercury.⁵²⁰ This may help track and control the trade of mercury and ensure it is not being diverted for illegal use in gold mining.

8. Closing Thoughts

Ecuador possesses a comprehensive legal framework explicitly prohibiting mercury use in mining and penalizing related transgressions through multiple avenues, including administrative sanctions, civil suits, and severe criminal penalties under Ecuador's Penal Code.⁵²¹ However, national planning documents acknowledge a significant disconnect between the abolitionist legal architecture and the reality of continued clandestine mercury use, particularly in the extensive artisanal and small-scale gold mining sector, highlighting significant enforcement and implementation challenges.⁵²²

Recognizing this challenge, Ecuador's strategy extends beyond mere prohibition and punishment. It incorporates efforts to control the supply chain through mercury import licensing and regional monitoring via the Andean Observatory.⁵²³ Furthermore, like other countries in the region, Ecuador has placed a strong emphasis on formalizing the artisanal and small-scale mining sector, viewing formalization as a key strategy to reduce illegal practices and improve oversight.⁵²⁴ This involves simplifying legal pathways and offering tangible incentives like royalty exemptions for formalized artisanal miners, access to state-sponsored finance and technical assistance, and support for market access through certifications, reflecting an understanding that positive incentives must accompany deterrents.⁵²⁵ Still, as in the other focus countries, it remains difficult to measure the extent to which these plans have (or will) translate to major changes in practice.

Ecuador's approach is distinguished by its constitutional innovations, particularly the recognition of the rights of nature and robust collective rights for IPLCs.⁵²⁶ These constitutional principles provide unique legal avenues for environmental protection and community-led litigation, potentially mirroring developments seen in neighboring jurisdictions like Colombia's *Rio Atrato* case (discussed above).⁵²⁷

While efforts towards gold traceability currently involve promoting certifications rather than managing a fully established mechanism, the overall approach reflects a complex attempt to balance resource exploitation, environmental protection, IPLC rights, and socio-economic

⁵²⁰ Andean Comm. Dec. 844 (2019); Andean Comm. Res. 2197 (2021).

⁵²¹ Ley de Minería, art. 57 (Ecu. 2009); Código Orgánico Integral Penal, arts. 71, 254, 258, 260, 261, 267; Ley Orgánica reformativa a la Ley de Minería, art. 17 (Ecu. 2013).

⁵²² See generally 2020 NAP, (the findings, data, and overall analysis included in the 2020 NAP, which includes various prior studies, reports, and data collected by regulatory agencies, etc.).

⁵²³ See generally Import and Transfer Regs for Mercury (Ecu. 2013); Andean Comm. Res. 2197 (2021).

⁵²⁴ 2020 NAP, § 2.5.1.

⁵²⁵ Ley de Minería, art. 134 (Ecu. 2009); Decreto 120, arts. 30-33 (Ecu. 2009); 2020 NAP, §2.5.1.

⁵²⁶ Constitución de la República del Ecuador (2008) arts. 57.7, 71–74; *Convention Concerning Indigenous and Tribal Peoples in Independent Countries* (ILO No. 169), June 27, 1989, 28 I.L.M. 1382.

⁵²⁷ *Tierra Digna v. Presidencia*, Sentencia T-622/16 (Corte Constitucional Nov. 10, 2016) (Colom.), <https://www.corteconstitucional.gov.co/relatoria/2016/t-622-16.htm>

development.⁵²⁸ Ultimately, the effectiveness of this framework likely hinges on robust enforcement of the existing prohibitions, continued tightening of legal mercury imports (which would seem to entail regulatory reform), and successful implementation of formalization and support strategies calibrated to preserve livelihoods while weaning miners off mercury—and hopefully away from alluvial gold mining altogether.

V. Findings and Recommendations

Upon review of the most salient laws and policies of the five focus countries—as well as a study of the literature on gold mining using mercury in the Amazon basin—a pair of high-level points becomes clear.

First, all five countries face similar challenges regarding formalization of their respective gold-mining sectors, the reality of outright illegal gold mining, and the formidable task of controlling mercury use and trade. Given this common baseline, this report comes to several cross-cutting findings and recommendations, or findings and recommendations that generally apply to each focus country. Although these cross-cutting findings and recommendations are not so granular as those pertaining to each individual country, they underscore the fundamentally *regional* nature of the problem; and, as such, they point to the need for greater cross-border collaboration and collective work in spaces like the Minamata Convention itself.

Second, and in no way contradicting the first point, the problem of mercury-based gold mining manifests in distinct ways in each of the focus countries. While the problem may emerge from a common baseline, the distinct social, economic, political, geographic, and legal milieu of each focus country creates divergence. Some of the focus countries have far more sophisticated laws on, for instance, mercury imports and domestic trade (e.g., Brazil); other countries (e.g., Ecuador and Colombia) have clearer pathways for citizen lawsuits to address pollution from gold mining; and some countries struggle mightily to assert the power of the state against mining interests (here, Bolivia and Peru stand out). The analysis of each country’s national laws and regulations therefore also points to a series of individualized findings and recommendations.

For a visual representation of some, but not all, of the points made below, the reader may find the Appendix (“Summary Tables”) helpful.

1. Cross-cutting findings and recommendations:

- Formalization remains an ongoing challenge in all focus countries.
- More specifically, the scale of informal gold mining in all five focus countries continues to manifest as a multi-faceted conundrum, wherein governments must (a) strike a balance between sufficiently incentivizing formalization and requiring behavioral change significant enough to improve the fundamental character of informal ASGM; (b) carefully discern between informal mining that ought to be brought into the fold and illegal mining that calls for outright elimination; and (c)

⁵²⁸ 2020 NAP, § 2.5.1.

accomplish all this in economic and political contexts, particularly those that prevail in and near ASGM hotspots, that tend to be characterized by limited alternative jobs, high levels of corruption, organized crime, and an often scarce presence of official institutions.

- Regionally, more needs to be done to reduce the availability of mercury, whether imported and sold legally or illegally. Bolivia's role as a regional entrepot for mercury imports is a major problem. And while many of the other focus countries have taken more significant steps to reduce legal imports, contraband distribution remains prevalent across the region.
- The focus countries should ramp up cross-border collaboration to reduce illegal mercury imports from beyond the region and smuggling within the region. Such collaboration should take the form of intelligence-sharing, coordinated interdiction efforts, and, in the context of investigation and prosecution of concrete cases, both formal mutual legal assistance and informal cooperation.
- As members of the Andean Community of Nations, Bolivia, Ecuador, Peru, and Colombia should continue to support the work of the Andean Mercury Observatory.
- All focus countries should prioritize treating illegal gold mining as a form of organized crime, leveraging specialized investigation techniques and financial investigations to build cases against the intellectual authors and chief beneficiaries of illegal gold mining organizations, including organized crime groups and any corrupt officials who profit from illegal gold mining;⁵²⁹ prosecutorial authorities should, in appropriate cases, seek maximum penalties, with a particular emphasis on forfeiture of proceeds and environmental restoration orders. Peru's legislation is a helpful model in this regard.
- Although each of the focus countries maintains legal provisions imposing a duty upon persons who damage the environment to restore or support the restoration of the affected ecosystems, the extent to which restoration orders are issued in practice is unclear. It is equally unclear how often these restoration orders are satisfied by those subject to them. Empirical research on these two related issues

⁵²⁹ In some cases, "intellectual authors and beneficiaries" would clearly include major organized crime groups. For example, EIA's work to uncover the recent actors behind a mercury trafficking ring (shipping mercury from Mexico to Peru and beyond) pointed to involvement by the Jalisco New Generation drug cartel. In less dramatic circumstances, and depending on the case, "intellectual authors and beneficiaries" could include "legitimate" mining and gold-refining firms that collaborate with illegal gold miners, purchasing and laundering their product; corrupt government authorities who look the other way in exchange for bribes or, perhaps more troublingly, allow illegal miners to operate with impunity for both monetary and political benefits. In all events, from the standpoint of enforcement policy, in cases involving an organized illegal mining group (and not all illegal mining is truly organized) it would seem important to distinguish between bit actors and the more powerful, culpable actors.

would seem to be crucial to efforts (a) to understand whether restoration provisions are being implemented, and (b) if insufficiently or unevenly implemented, to assist willing jurisdictions in identifying barriers and ways to improve implementation.

- Generally speaking, IPLCs opposed to gold mining with mercury could use support in implementing their own ideas and policy agendas. A recent conference (late July 2025) held with IPLC leaders from Peru, Colombia, and Brazil produced a Joint Declaration on Gold Mining and the Use of Mercury in the Amazon.⁵³⁰ This declaration urges national authorities of all three countries to, *inter alia*, work to demarcate and formalize indigenous territories where such processes are incomplete; facilitate direct access to financing for conservation projects designed and implemented by IPLCs; establish a health network with sites throughout the Amazon Basin to monitor mercury exposure; and support IPLC food sovereignty in light of mercury contamination of local fisheries.
- In fidelity to commitments made under the American Convention on Human Rights, ILO Convention 169, UNDRIP, and the Escazú Agreement (acknowledging that Brazil and Peru are not yet Parties to this latter instrument), all focus countries should make concerted efforts to furnish meaningful opportunities for legal recourse when gold mining using mercury impairs the human right to a healthy environment, the right to water, and the rights of IPLCs to their territories, renewable natural resources, and cultural identity.
- Finally, as all five countries are Parties to the Convention on Biological Diversity, they should consider including mercury- and gold mining-related measures in their National Biodiversity Strategies and Action Plans under Article 6 of the Convention. The Nature Conservancy developed guidance for the Minamata Secretariat to do this, which will be discussed at the upcoming Minamata COP6 in Nov 2025.

2. Country-specific findings and recommendations:

- **Bolivia**
 - Bolivia should be encouraged and supported to develop its NAP as soon as possible in compliance with Article 7 of the Minamata Convention. Particularly for a country like Bolivia, which has so many pressing problems with mercury and gold mining, the NAP space provides an important opportunity for holistic—and realistic—planning, including ideas for law and policy reform.

⁵³⁰ https://fcds.org.pe/publicaciones/pronunciamento_indigenas_col-pe-bra/

- Within the current legal structure, Bolivia should strongly consider amending its laws to prohibit gold mining in protected areas (with a possible, limited exception for traditional panning). Extractive activities like mining and oil and gas are generally not compatible with the ecological attributes that justify protected areas designations, especially now within the framework of Target 3 of the GBF.
- If the Bolivian Central Bank continues to purchase gold from mining cooperatives and/or other sellers, it should develop a mechanism to reduce the risk of purchasing gold produced with mercury. This would likely require both legal reforms (and perhaps technological innovations). This could also serve as something of a pilot project for broader gold traceability efforts in Bolivia.
- In parallel, the Bolivian Central Bank should be encouraged to reduce purchases of co-op mined gold as soon as economic conditions permit.
- Working within the existing legal framework, Bolivia should be encouraged to ensure appropriate application of the low, 2.5% royalty rate. Under Law 535, this low rate is to apply only to “marginal” gold deposits from “small scale” operations. According to local expert observers, almost all co-op mined gold receives this favorable rate, even when the operations do not meet the legal criteria. This effectively subsidizes co-ops, which account for over 90% of Bolivian gold production. More rigorous supervision of operations receiving or applying for this rate could come in various forms, e.g., through increased field audits or through the enactment of a legal presumption of non-eligibility absent clear and convincing proof to the contrary.
- Bolivia should amend its legislation to prohibit mercury imports for use in gold mining, coupled with hard and descending caps for imports for other purpose. Both the Brazilian and Ecuadorian models may be instructive in this regard.
- Bolivia should be supported as it works to improve implementation of Supreme Decree 4959 and Ministerial Resolution 325, which establish the Single Mercury Registry (RUME) and control imports and exports of mercury.
- Alternatively, if Bolivia can secure significant financial and institutional support, Bolivia could consider implementing a double-permit, digitized system to authorize and track all imports, exports, sales, purchases, transport, and use of mercury. This is, essentially, Brazil’s new system as of the 2024 IBAMA regulation. Note, however, that this would not be possible or worth the attempt in Bolivia without significant financial and

institutional support (from the Minamata Convention, Global Environment Facility, and/or Brazilian government, for example).

- Staying on the topic of collaboration with Brazil, Bolivia should strengthen cooperation with Brazil to fight mercury trafficking across the countries' shared border. This could include joint border patrols, joint interdiction operations, and even a permanent joint task force made up of Bolivian and Brazilian police and customs agents, among others.
- Finally, Bolivia should work with mining co-ops to develop acceptable and feasible—but firm—methods to reduce co-op purchases of gold mined using mercury (and gold extracted from protected areas) from third parties or affiliate members. This will be difficult. The starting point may be the development of a non-binding protocol wherein co-ops agree to exercise certain levels of due diligence in the context of their purchases. Over time, this could set the stage for a proper law.

○ **Brazil**

- Brazil should be urged to complete its Article 7 NAP as soon as possible. The process apparently slowed down under Brazil's prior presidential administration but has been reinitiated under the current administration. Brazil clearly has the capacity and, it would seem, political will to do this sooner rather than later.
- Brazil should be supported and encouraged in its efforts to implement and enforce IBAMA Normative Instruction No. 26-2024. This is an exemplary approach to regulatory control and tracking of mercury, from import and export to domestic transport, purchase, and use. Although robust implementation may require a sizeable budget allocation, the design of the regulation warrants as much. Nothing in this regulation should be changed; it should be implemented full speed ahead.
- Brazil should strengthen cooperation with Bolivia to fight mercury trafficking across the countries' shared border. This could include joint border patrols, joint interdiction operations, and even a permanent joint task force made up of Bolivian and Brazilian police and customs agents, among others.
- Similar efforts should be made to strengthen cooperation with Colombian, Ecuadorian, and Peruvian authorities. Although the primary source of mercury flowing illegally into Brazil appears to be Bolivia, organized crime groups involved in illegal gold mining frequently operate in Amazonian border zones that span Brazil's border with these other countries.⁵³¹
- Brazil should ratify the Escazú Agreement, as its provisions on access to courts and environmental defenders are especially relevant to Brazilian

⁵³¹ <https://ojo-publico.com/5059/organized-crime-groups-behind-new-amazon-illegal-mining-enclaves>

IPLCs facing incursions and threats from illegal and informal gold miners. Notably, ratifying the Escazú Agreement would align well with Brazil's recent efforts, in collaboration with the UNODC, to train young Indigenous communicators to effectively denounce illegal mining in the Amazon.⁵³² Many high-profile NGOs (e.g., Human Rights Watch) have urged Brazil to ratify the treaty.⁵³³

- Finally, Brazil should consider whether it would be helpful to amend its criminal legislation to more effectively target high-level operatives in illegal mining and mercury trafficking cases. As noted above, Brazil's criminal penalties are not particularly strong in isolation (although they can pack a punch in the case of multiple charges). Brazil may find review of Peru's Law Against Organized Crime instructive to ensuring investigators and prosecutors have the tools they need to secure truly deterrent penalties for the beneficiaries, organizers, and financiers of sophisticated illegal mining and mercury trafficking operations.⁵³⁴

○ Colombia

- Colombia should continue to work to reinforce the mercury import and use bans established through Law 1658 of 2013 and associated decrees. Picking up on the Constitutional Court's observation that the problem, especially as relates to ASGM, is complex and requires "consensual solutions" with actors in the informal mining sector, authorities should emphasize incentives for miners to voluntarily abandon mercury.
- Although use of mercury is prohibited under law—and it appears that Colombia's import ban has achieved its result of minimizing legal imports—informal and illegal ASGM miners continue to obtain mercury from traffickers and to use that mercury in alluvial gold mining. In this context, it seems that the best approach lies in a combination of deterrence-generating law enforcement (with prosecutions and strong penalties for the most culpable of actors) and softer, diplomatic-like approaches to encourage compliance by ASGM communities willing to cooperate.
- Particularly when IPLC and Afro-Colombian communities are involved in mining with mercury—and this may or may not be a sizeable portion of cases—the historical context and these communities' special legal rights vis-à-vis territorial management seems to suggest an approach that

⁵³² <https://www.unodc.org/cofrb/en/noticias/2025/2/unodc-brazil-trains-young-indigenous-communicators-to-confront-illegal-mining-in-the-amazon.html>

⁵³³ <https://www.hrw.org/news/2024/09/26/brazils-turn-ratify-landmark-environmental-treaty>

⁵³⁴ For the closest thing to this in Brazil see: https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2013/lei/l12850.htm

includes “the participation of communities and their plural visions,” to use the words of the Constitutional Court.

- This need not imply retreat from the prohibition on use of mercury. That is the law, and it should serve as the baseline for discerning realistic ways to reduce mercury. At the same time, the persistent use of mercury despite the ban shows that more is needed.
- As such, incentives, alternatives to mercury, and even assistance for alternative livelihoods—coupled with multi-stakeholder, site-specific plans—seem to be crucial at this juncture in Colombia.
- Separately, given the relative effectiveness of public-interest litigation in Colombia (e.g., in the Rio Atrato matter), civil society organizations should consider bringing suits in appropriate cases involving gold mining with mercury. Such suits can be employed in a variety of ways, from forcing the government to comply with its own laws to securing court orders that mandate restoration payments by private entities (e.g., mining cooperatives or mining firms that facilitate illegal or informal mining causing harm to ecosystems and communities—or even firms that knowingly purchase illegally mined gold).
- To ensure that any court orders won through litigation of this nature are in fact executed—and that the environment and local communities perceive real benefit—civil society and government actors alike should establish mechanisms for post-litigation monitoring

○ **Ecuador**

- Ecuador should consider reducing import allowances to better align with its prohibition on use of mercury in mining. The current limit (a maximum of 1 ton per import license) may be overly generous and exploited by bad actors to provide gold miners with mercury.
- For permitted imports (i.e., for non-mining uses), Ecuador should continue to invest in improved monitoring and tracking to minimize the risk of mercury being siphoned off, post import, for use in gold mining.
- Because the Ecuadorian approach and the Brazilian approach to trade and commerce in mercury are similar in many respects—they both rely on a strict system of permits throughout the supply chain—the two countries would likely benefit from a dialogue around the challenges they have encountered in making these systems work.

○ **Peru**

- Peru's formalization regime, as currently designed, seems to have failed to achieve its primary objectives. While a significant number of miners have

taken the first step toward formalization (i.e., registration), the overwhelming majority have not followed through on subsequent steps. It is those subsequent steps that are the most important from the perspective of improving compliance with environmental, labor, tax, reporting, and other operational norms.

- It appears that miners have taken the first step but not later, more important steps towards formalization because the government has offered a major incentive for initial registration (immunity from prosecution) but not significant incentives for continued, meaningful steps towards formalized, legal operation.
- Going forward, Peru should ensure that incentives are contingent upon meaningful progress toward formalization and, especially, improved environmental performance, including reduced use of mercury in alluvial gold mining.
- Procedurally, addressing the above challenges will almost certainly entail the inclusion of well-crafted provisions in the Ley MAPE (i.e., the proposed Law of Small-Scale and Artisanal Mining).
- There appears to be a clear consensus that Peru needs new sector-wide legislation, and that the Ley MAPE will reset Peru's formalization regime.
- Although the draft Ley MAPE approved by the executive branch is admirable in some respects, it could be much better. Specifically, Peru's lawmakers should pay close attention to the recommendations made by the Illegal Mining Observatory, including the need for (1) clearer definitions for artisanal and small-scale miners, as well as differential treatment for newer entrants into the formalization process; (2) a stronger mercury-reduction policy—including a plan to prohibit the use of mercury by artisanal and small-scale miners by 2030—coupled with more support for cleaner technologies and improved traceability; (3) clearer protections for protected areas, buffer zones, and indigenous territorial reserves; and (4) stronger oversight by national authorities in place of regional authorities.
- Less substantively, but still importantly, Peru should finalize its draft ASGM NAP and pursue the tasks included in that draft, especially development of a “normative proposal [i.e., a proposed law or regulation] for the reduction of mercury emissions and releases” from ASGM.⁵³⁵ This, of course, could and probably should be included in the Ley MAPE, as discussed above.
- On the prosecutorial front, recent statements by FEMA head Dr. Frank Almanza suggest that this specialized prosecutorial division is struggling with budget cuts. Dr. Almanza's public declaration that these budget cuts

⁵³⁵ <https://cdn.www.gob.pe/uploads/document/file/5797368/5144122-plan-mape-mercurio.pdf?v=1706882355>

specifically jeopardize illegal mining work are very concerning, to say the least.⁵³⁶ Peruvian authorities should be encouraged to prioritize a full budget for FEMA. If financial realities require austerity in some places, cuts to illegal mining work should be avoided at all costs given Dr. Almanza's perception, echoed by others, that "among all the environmental crimes, [illegal mining] is today the one that is generating the most worries and problems at the national scale."⁵³⁷

- Finally, Peru should ratify the Escazú Agreement, joining the majority of Latin American and Caribbean countries in this treaty commitment to access to information, public participation, and access to justice in environmental matters.

⁵³⁶ <https://www.actualidadambiental.pe/falta-de-presupuesto-limita-la-lucha-contra-la-mineria-ilegal-segun-el-ministerio-publico/> ("A las FEMA nos han quitado el presupuesto asignado para delitos de minería ilegal. Nos han puesto presupuesto cero", denunció.).

⁵³⁷ <https://www.actualidadambiental.pe/falta-de-presupuesto-limita-la-lucha-contra-la-mineria-ilegal-segun-el-ministerio-publico/>