

EXECUTIVE SUMMARY

UNDERMINING RIGHTS

*Indigenous Lands and Mining
in the Amazon*

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A scenic view of a tropical riverbank. In the foreground, a wooden boat is moored on the water. The bank is covered in lush green vegetation, including tall trees and palm trees. In the background, a thatched-roof hut is visible, partially obscured by the trees. The sky is clear and blue.

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FOREWORD

As this report is being released, the price of gold hit a record high of almost \$2,100 per ounce in August. Gold prices had been rising for years but the threat to economies from the novel coronavirus led to a surge in prices — up about 35 percent this year — as investors sought the perceived safety of gold. As prices rise, so does demand and mining. These circumstances make this report on the effects of mining on indigenous people and their lands in the Amazon particularly timely.

We know from previous WRI research that deforestation rates on indigenous lands in the Amazon are sharply lower than on similar land not managed by indigenous people. Now we have learned from this report that industrial mining concessions and illegal small-scale mining occur on more than 20 percent of indigenous lands in the Amazon and that deforestation rates on indigenous lands with mining are significantly higher than on indigenous lands not affected by mining.

The Amazon is home to about 1.5 million indigenous people. The forest is their home and source of livelihood. Mining is environmentally destructive and brings social and health risks. Environmental degradation leads to the loss of critical ecosystem services—such as water flow regulation, biodiversity and carbon sequestration—that benefit indigenous people and all humanity. Mining also leads to conflict, especially between miners and indigenous people. According to Global Witness, mining was the deadliest sector for land defenders in 2018 and 2019.

This report finds that while laws in Bolivia, Brazil, Colombia, Ecuador, Guyana, and Peru recognize some land rights for indigenous people, they do not provide the legal protections needed for them to secure their lands and take charge of their own development. For example, of these countries, only Guyana recognizes the right of free, prior, and informed consent, and only Colombia provides the right of first refusal when the government grants a mining concession on their lands. Yet mining companies often have sweeping rights to enter and use indigenous land for their operations.

The case studies for this report reveal that some indigenous people take extraordinary measures to protect their lands from mining. In Peru, for example, the Tres Islas indigenous communities persuaded domestic courts to declare 127 mining concessions on their land null and void. In Colombia, when a mining company sought a concession on their land, the Yaigojé Apaporis people successfully convinced the government to designate their land as a national natural park where mining is prohibited.

The findings have implications for indigenous people, governments, development agencies, mining companies and civil society organizations to correct the large power discrepancies between indigenous people and miners. It calls on governments to enact legislation that recognizes additional land and mineral rights for indigenous people, establish strong social and environmental safeguards, and better monitor mining to ensure compliance with national laws. It calls on mining companies to respect indigenous rights and provide indigenous people with fairer shares of mining benefits. And it calls for indigenous people to build the skills needed to protect themselves from harm.

Decisionmakers around the world have an opportunity to support indigenous people and protect forests. With mining rapidly expanding deeper into the Amazon, it's time to act. Not doing so would have a massive cost to indigenous people and the forest—a cost much greater than gold.



A handwritten signature in black ink, appearing to read 'Andrew Steer', with a horizontal line underneath.

Andrew Steer
President
World Resources Institute

HIGHLIGHTS

- Industrial mining concessions cover approximately 1.28 million square kilometers (more than 18 percent) of the Amazon. Mining concessions and illegal mining overlap with 450,000 sq. km (more than 20 percent) of indigenous lands and affect 1,131 (31 percent) indigenous lands.
- Indigenous lands on which mining is carried out showed a higher rate of forest loss (from 2000 to 2015) than indigenous lands without mining. In Bolivia, Ecuador, and Peru, the rate was at least three times higher; in Colombia and Venezuela, it was one to two times higher.
- National laws provide indigenous people with some land rights but few rights to the minerals on their lands. Only in Guyana do indigenous people have a limited form of consent, and only in Colombia do they have the right of first refusal over commercial mining on their lands.
- In practice, the law is not well implemented by miners or enforced by governments. Indigenous people have employed various strategies, such as litigation, to protect their lands from mining.
- There is a need to strengthen legal protections for indigenous lands, establish strong social and environmental safeguards, build the capacity of indigenous people to protect their lands, ensure all mining meets established safeguards, and provide for effective law enforcement.

Introduction

The Amazon contains world-class deposits of copper, tin, nickel, iron ore, bauxite, manganese, and gold. All Amazonian countries have promoted and supported the exploration, exploitation, and export of high-value minerals for decades. In recent years, however, governments have committed to mining as a key component of their national development strategies and have provided more incentives to promote investments. Mining as a percentage of gross domestic product (GDP) has increased in several Amazonian countries.

Artisanal and small-scale mining (ASM), especially for gold, has been part of the livelihood strategy of rural households for centuries; large-scale industrial mining has been underway for much of the 20th century. Mining in the Amazon is dominated by industrial mining in the east, although mining for copper and gold is expanding into the lowland forest. Large-scale mining blocks or concessions overlap with many indigenous lands. Many other indigenous lands are indirectly affected by mining, from infrastructure (e.g., roads, rail lines, and dams), new towns for workers, and other associated developments.

ASM, especially for gold, takes place throughout the Amazon. Today, more than 500,000 small-scale gold miners are estimated to be active in the Amazon and many more people provide ASM services or are dependent family members. The expansion of ASM has been driven largely by rising gold prices coupled with limited livelihood opportunities. Illegal mining in the Amazon, principally ASM, has been underway for decades but has grown exponentially in recent years. In 2016, it was estimated that about 28 percent of the gold mined in Peru, 30 percent in Bolivia, 77 percent in Ecuador, 80 percent in Colombia, and 80–90 percent in Venezuela was produced illegally. Today, many indigenous lands are affected by illegal mining by outsiders.

Brazil holds about 60 percent of the Amazon basin and forest, and almost half of the indigenous lands. Its 1988 Federal Constitution allows for mining on indigenous lands but only under rules approved by the National Congress.

Since the National Congress has not established such rules, mining on indigenous lands is effectively prohibited although, in practice, illegal mining is underway in many indigenous territories. The government, however, is moving to open up the Amazon to commercial development. In January 2019, the minister of mines and energy announced that the government was preparing to overhaul mining regulations that will include opening indigenous lands to extractive resource exploitation and infrastructure. On February 5, 2020, Brazil's president signed Bill 191/2020 that would open indigenous lands to mining, oil and gas extraction, electricity generation, and agriculture. The bill is now in the Chamber of Deputies for discussion.

The COVID-19 pandemic, caused by the novel coronavirus, has impacted mining in Amazonian countries. Governments have declared states of emergency and issued stay-at-home orders, resulting in many sectors of the economy essentially shutting down. In Peru and other Amazonian countries, however, governments have allowed large-scale mining to continue and encouraged expansion while sidelining and constraining livelihood possibilities for ASM. Mining in Peru accounts for significant percentages of the national and some regions' GDPs, and large-scale mining is the principal contributor to the country's Fiscal Stabilization Fund.

Gold prices have been steadily rising for several years, but the threat to economies from the novel coronavirus has led prices to surge to record highs—up about 27 percent so far in 2020—as investors flee stocks to the safety of gold. As the price of gold rises, so does demand. The surge has triggered a new, intensified gold rush in the Amazon with implications for local people and the environment (Nascimento and Faleiros 2020). Soaring prices, coupled with the withdrawal of the police and army from the mining areas to enforce lockdowns and attend to the health crisis, have allowed illegal mining to expand further (Saffon 2020).

These and other developments have driven mining into more remote parts of the Amazon with significant implications for

indigenous peoples and the forest. The Amazon is home to 44.9 million people, including about 1.5 million indigenous people from 385 different ethnic groups as well as many Afro-descendants and other traditional people. Mining, by its very nature, is environmentally destructive and brings significant health and social risks. Mining on or near indigenous lands can lead to conflict, especially between miners and indigenous people who depend on the land for their livelihood.

In 2018, at least 164 land and environmental defenders were killed around the world.

And for the first time, mining was the world's deadliest sector, with 43 defenders, including many indigenous people, killed while protesting against the destructive effects of mining on their lands and livelihoods. In 2019, a record 212 land and environmental defenders were killed around the world, an average of more than four people per week. Seven of the top 10 worst-affected nations are in Latin America, where more than two-thirds of the total killings took place. Colombia was the deadliest country with 64 killings—up from 25 in 2018—accounting for 30 percent of the global total. Brazil had 24 killings, almost 90 percent of which took place in the Amazon. Globally, 40 percent of defenders killed were indigenous people, despite representing just 5 percent of the world's population. Mining was again the deadliest sector, with 50 people killed. Ten percent of those killed were women. Women also faced smear campaigns using sexist or sexual content, and sexual violence (Global Witness 2020; Guy 2020).

Research and Methods

The research for this report was designed to better understand three issues:

- The law regarding the rights of indigenous people over their lands and the mineral resources on their lands, as well as the powers and obligations of miners operating on indigenous lands.
- The implementation and enforcement of these laws and the experiences of indigenous people when mining occurs on their lands.

- The environmental impacts of mining on indigenous lands, especially the impact on forests.

Data were collected through literature reviews, geospatial analysis, legal reviews, and case studies.

- **Literature reviews:** The research involved both a broad review of the literature on mining on indigenous and community lands globally, and more focused reviews of six countries—Bolivia, Brazil, Colombia, Ecuador, Guyana, and Peru.
- **Geospatial analysis:** Geospatial analysis was conducted to examine the extent and impact of mining on indigenous land and forest cover in the Amazon. This geospatial analysis focused on the biogeographic boundary of the Amazon. Data on large-scale mining concessions and illegal mining were available for Bolivia, Brazil, Colombia, Ecuador, Peru, Suriname, and Venezuela. Deforestation rates on indigenous land with active concessions and/or illegal mining were calculated for the period from 2000 to 2015 and compared with the rates on indigenous land without mining.
- **Legal reviews:** The legal reviews focused on Bolivia, Brazil, Colombia, Ecuador, Guyana, and Peru, and addressed four critical issues: ownership of mineral resources, allocation of mineral rights, consultation and consent, and protection of indigenous lands. National (or federal) laws enacted before April 2020, including constitutions, statutes, regulations, decrees, technical directives, and court rulings of relevant cases, were reviewed to the extent they were available.
- **Case studies:** To better understand the implementation and enforcement of laws, and the practice of mining on indigenous land, case studies were developed of indigenous peoples experiencing mining—or the threat of mining—on their land. One case study each was developed from Bolivia, Brazil, Colombia, Ecuador, Guyana, and Peru. Data and information on the case studies were collected from the literature and through interviews with local experts with knowledge of the affected indigenous people.

Data and Findings

GIS analysis:

Large-scale mining concessions cover approximately 1.28 million sq. km (excluding French Guiana and Suriname) or more than 18 percent of the Amazon biogeographic region. Nearly 45 percent of the mining area (567,000 sq. km) is considered “active” mining area (i.e., in exploration or extraction), while much of the remaining portion is “inactive” (i.e., the concessions are pending activity—open for bidding or under tender). Approximately 57,000 sq. km of the active mining concessions, or more than 10 percent, overlap directly with indigenous territories. Active mining concessions overlap indigenous lands in all Amazonian countries. Many indigenous lands are affected by multiple overlapping mining concessions held by different mining companies.

The analysis of illegal mining focused on Bolivia, Brazil, Colombia, Ecuador, Peru, and Venezuela. Most of the illegal mining area is in Peru and Bolivia, while Brazil and Venezuela have the largest estimated number of illegal mining extraction sites. At least 30 rivers are affected by illegal mining or are acting as routes for the entry of machinery and inputs and the outlet of the minerals. Known areas or sites of illegal mining operations overlap with at least 370 indigenous lands, including 260 indigenous lands in Peru. Rivers affected by illegal mining are within or on the border of 88 indigenous lands, including 32 indigenous lands in Peru and 29 in Colombia.

In total, about 450,000 sq. km—more than 20 percent—of the 2.1 million sq. km of indigenous land in the Amazon directly overlaps with mining concessions and/or illegal mining and affects 1,131 of the 3,653 (31 percent) indigenous lands in the Amazon (excluding French Guiana and Suriname). Approximately 143,000 sq. km of indigenous land overlaps with active mining concessions and known illegal mining areas, while the remaining 302,000 sq. km of indigenous land overlaps with inactive concessions. Much of the 143,000 sq. km of indigenous land with active concessions and/or illegal mining areas occurs in Venezuela, followed by Brazil and Colombia. Most of indigenous land with inactive concessions is in Brazil because of the absence of an enabling law.

Indigenous lands that experienced mining (i.e., active concessions and/or illegal mining) had a higher rate of forest loss in the period 2000 to 2015 than indigenous lands not affected by mining. In Bolivia, Ecuador, and Peru, the rate was at least three times higher and in Colombia and Venezuela, the rate was one to two times higher on indigenous lands with mining than on indigenous lands absent mining.

In Brazil, there was not a large discrepancy between the rate of deforestation on indigenous lands with active mining activities and indigenous lands without mining. The deforestation rate from 2000 to 2015 on indigenous lands with mining was only 0.3 percent higher than the rate on indigenous land without mining. Overall, the deforestation rate on indigenous land with mining in Brazil was lower than in the other countries. With mining not legally possible on indigenous land, this may be due to the government labeling some mining concessions as active when, in practice, they are inactive.

In Guyana, the deforestation rates were 0.3 percent higher from 2000 to 2015 on indigenous lands that did not experience any mining than the rates on lands with mining. This may be due to legal ASM and/or illegal mining on indigenous lands which are widespread in the country. The Guyana analysis only included active mining concessions as Amazon Network of Georeferenced Socio-Environmental Information (RAISG) does not have data on ASM and illegal mining for the country.

Legal reviews:

Multiple international instruments address or have implications for mining on indigenous land. Two international instruments are of particular importance as they have helped shape domestic legislation that governs mining on indigenous land in the six research countries—the International Labor Organization’s Indigenous and Tribal Peoples Convention, 1989 (ILO Convention 169) and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Adopted in 1989, ILO Convention 169 established international standards on the rights of indigenous peoples (ILO 1989). Of the six research countries, only Guyana has not ratified ILO Convention 169. The

2007 UNDRIP provides a universal framework of minimum standards for the survival, dignity, and well-being of indigenous peoples (UN 2007). All six research countries have adopted UNDRIP.

Land rights:

The national laws in Bolivia, Brazil, Colombia, Ecuador, Guyana, and Peru recognize indigenous land rights and customary tenure systems, and domestic court decisions have stressed the importance of these rights.

By law, the formalization of customary land rights is not required for the rights to be legally recognized, although, in practice, a land title or certificate can help indigenous communities better protect their rights against third parties. Formalization is central to the integration of customary land rights into official systems and the establishment of legally recognized rights. In the research countries, the established formalization procedures are costly and time consuming, can bring exposure to unwanted investors, and can result in fees and taxes. Moreover, not all customary land and traditional rights can be formalized (see Colombia and Guyana Case Studies; Notess et al. 2018).

The rights recognized through formalization in the six research countries vary by country, tenure regime, and/or type of title. Indigenous peoples in the research countries enjoy some level of access, withdrawal/use, management, exclusion, and alienation rights to lands and natural resources found there. Rarely, however, do they have full, unfettered land rights. For example, the right to withdrawal or use is often restricted to *renewable* natural resources and only for domestic or subsistence purposes (although indigenous people may apply to acquire these rights under a separate procedure).

Indigenous peoples in the six research countries also have limited alienation rights. By law, indigenous lands are inalienable in Bolivia, Brazil, and Colombia (in the case of indigenous reserves)—the government or other entities cannot take indigenous lands, and indigenous peoples may not sell or otherwise transfer their titled land to another entity. Indigenous land in Peru and Ecuador was

at one time inalienable but is no longer so due to constitutional reforms. In Guyana, titled indigenous land is not exempt from expropriation.

In Peru, indigenous people may sell their land, although in Bolivia, Brazil, Colombia, Ecuador, and Guyana, they are prohibited from doing so. Indigenous people in Colombia, Guyana and Peru may, however, lease some of their land to third parties, including miners. The laws in Bolivia, Brazil, and Ecuador do not explicitly allow indigenous peoples to lease their collective lands.

Mineral rights:

In Brazil, Colombia, Ecuador, Guyana, and Peru, all mineral resources are the property of the state, including the minerals on and below indigenous land. In Bolivia, minerals are the property of the Bolivian people, but the government is responsible for their administration. In all six research countries the government has authority over minerals and mining operations in the country, including the authority to grant rights to third parties for the exploration and exploitation of minerals.

In all research countries, indigenous people can exploit minerals on their land for subsistence, domestic, or customary purposes. In Brazil, Colombia, and Guyana, indigenous people do not need government authorization to do so, but in Bolivia, Ecuador and Peru, government authorization is required.

By law, commercial mining can take place on indigenous land in Bolivia, Colombia, Ecuador, Guyana, and Peru. (In Brazil, an enabling law is currently being debated that would allow mining on indigenous land.) National laws in these five countries establish procedures for acquiring mineral rights for commercial exploration and exploitation from the government mining authority often in coordination with the environmental agency.

In Colombia and Guyana, national law explicitly provides for indigenous peoples to conduct commercial mining. In Bolivia, Ecuador, and Peru the law is silent on this matter but does not

explicitly prohibit or restrict indigenous people from applying for mineral rights. In Colombia, indigenous peoples are provided with simplified procedures to acquire the rights to commercially mine their land. In Bolivia, Ecuador, Guyana, and Peru, indigenous people must meet the same requirements as other parties.

In Colombia, the law provides indigenous people the right of first refusal to exploit minerals for commercial purposes on their land. As such, indigenous people must first refuse their right to exploit mineral resources on their lands before the government can grant the mineral rights to a third party. The law does not provide indigenous people this right in the other five research countries.

In Colombia, Article 326 of the National Development Plan (2018–2022) Law (Law 1955 of 2019) provides that the government will establish differentiated requirements for the granting of mining concession contracts to indigenous people and Afro-Colombian communities. It will also establish “differentiated terms of reference for the *preparation* of the environmental impact study required for the environmental licensing of these mining projects.” Moreover, the law provides that once a mining concession is granted to “ethnic peoples” the government will provide them comprehensive technical support and their mining activities will be subject to differentiated monitoring. These specific requirements have yet to be established. If the indigenous people exercise their rights of first refusal but cannot meet the requirements to be granted a mining concession, the government may grant the mineral rights to a third party.

Consultation and consent rights:

National laws in all six research countries establish social and environmental safeguards designed to protect the rights of indigenous people and conserve indigenous land and natural resources, although the specifics vary by country. National laws in Bolivia, Brazil, Colombia, Ecuador, and Peru require the government to consult indigenous peoples whenever there are legislative or administrative measures or decisions that may affect them directly. In these five countries,

indigenous people must be formally recognized by the government as indigenous to enjoy the right to consultation, although they are not required to have a title to their land.

At the international level, indigenous peoples have the right to provide (or withhold) their free, prior informed consent (FPIC) as recognized under Article 19 of the UNDRIP. While no research country recognizes FPIC as provided in UNDRIP, the law in Guyana provides for a limited right of consent. By law, indigenous people must be recognized by the government as indigenous and they must have a land title to exercise the right of consent. For large-scale mining, however, the minister of indigenous peoples' affairs and the minister of natural resources can override refusal of consent and allow mining on indigenous land if it is considered in the public interest. This authority to override a refusal of consent is not consistent with UNDRIP.

Easements:

When mining on indigenous land, miners often seek the use of some additional indigenous land to conduct their operations. In Colombia and Guyana, the government may establish an easement on indigenous land to enable miners to develop their exploration and exploitation activities. In Bolivia, Brazil, and Peru, the law prohibits the government from establishing an easement on indigenous lands. In Ecuador, national regulations provide that the government may establish easements for mining purposes without the authorization of the landowner. National courts, however, have stated that easements cannot be established on all types of land. A 2010 court decision made clear that easement rules apply only to lands that are not considered indigenous.





Benefits:

National laws in all six research countries mandate some form of benefit sharing with indigenous peoples when third parties mine their land. In Peru, national laws require the miner to make a prior commitment through a sworn declaration to, among other benefits, preferably hire local personnel to carry out mining activities and provide training that may be required.

In some countries, regulations explicitly provide that indigenous peoples must benefit economically from mining projects on their land. In Ecuador, the Mining Law of 2009 states that “60% of the royalty of the mining projects, to be allocated for productive projects and sustainable local development” and that “when necessary, 50% of this percentage [be allocated] to the entities of government of the indigenous peoples.” These resources are to be distributed prioritizing the needs of the indigenous peoples who are directly affected by the mining activity.

Protection:

Mining is inherently damaging to the environment and brings risks to health and local well-being. To mitigate these damages and risks, national laws in all research countries require miners to minimize the impacts of their operations on the environment. The laws in the research countries address a range of critical environmental issues. Certain environmental issues, however, are not addressed in law and some minimum standards do not rise to the level of international law or norms.

In all six research countries, Environmental Impact Assessments (EIA) are required for projects that may significantly affect the environment, including large-scale mining operations. In Peru, a detailed EIA report is required for mining activities with *significant* negative environmental impacts, while a less detailed EIA report is needed for *moderate* negative environmental impacts. Mining operations with minimal environmental impacts only need a Declaración de Impacto Ambiental (DIA, Environmental Impact Declaration). Detailed EIAs are approved by the environmental authority, while the semi-detailed EIAs and DIAs are approved by the mining authority.

In all research countries, mining is prohibited on certain lands. In Ecuador, for example, the extraction of nonrenewable resources (e.g., minerals, oil, and natural gas) is forbidden in protected areas and areas declared “intangible” (“untouchable”), which may include some indigenous land. In Colombia, mining exploration and exploitation activities may not be carried out in national natural parks, regional parks, protected forest reserve areas, and wetlands.

In the research countries, governments are by law responsible for monitoring and overseeing mining companies to ensure their operations are conducted in accordance with the law, that they are meeting their social and environmental commitments, and that they mitigate and compensate for any environmental damages or other losses caused by their activities. The government in these countries also has the authority to arrest, detain, and punish miners for operating illegally, to impose fines, and to mandate compensatory measures on affected people. In all six countries, miners are also responsible for monitoring their operations to avoid environmental damages.

Case Studies

Below are the principal findings of the six case studies (see the full report for details).

Bolivia (Isiboro Sécure Indigenous Territory and National Park)

This case study highlights the importance of strategic alliances among different indigenous peoples to affect change. In Bolivia, the Mojeño, Yuracaré, and Chimán indigenous peoples joined efforts to effectively press the government to suspend the construction of a road that would cause environmental damage and open their lands to unwelcome development, including mining. The construction of the road remains on hold. The main findings in this case study include:

- In May 2011, the Bolivian government approved financing by the Brazilian National Bank for Economic and Social Development (Banco Nacional de Desenvolvimento Econômico e

Social, BNDES) for the construction of the Villa Tunari–San Ignacio de Moxos highway through the Isiboro Sécure Indigenous Territory and National Park (Tipnis).

- The Mojeño, Yuracaré, and Chimán indigenous peoples of Tipnis participated in several marches and protests. Their efforts paid off when, in October 2011, Tipnis was, by law, declared an “untouchable” area halting the construction of the road and stopping all industrial development, including mining.
- In April 2013, Bolivia’s president announced that the road would continue to be on hold for a three-year period until extreme poverty in Tipnis was eliminated.
- In August 2017, a new law was passed that annulled the “intangibility” status of Tipnis and reopened the possibility of the road being built. Given the ongoing controversies over the road, however, the government again decided to put the project on hold.
- Nearly 3,800 hectares of forest cover in the indigenous lands, roughly 0.8 percent of its total area, were lost between 2000 and 2015. This contrasts sharply with the significant forest loss immediately outside Tipnis, especially on the southern border of the indigenous lands.

Brazil (Yanomami Park)

This case study highlights the extent of illegal mining in some indigenous lands in the Amazon. Despite considerable efforts by the Yanomami and Ye’kwana indigenous peoples which have put their lives at risk, illegal mining is widespread on their lands. To date, government efforts have also failed to halt illegal miners from entering and conducting operations in the Yanomami territory. In recent years, the number of illegal miners has increased, and the operations have become more sophisticated. The main findings in this case study include:

- Mining is not legally possible on indigenous lands in Brazil. However, there are today perhaps 20,000 illegal miners operating on Yanomami lands.

- The Yanomami and their supporters have led national campaigns, called for international media attention, and received support from NGOs, but these efforts have not halted illegal mining on their lands.
- The government is responsible for monitoring and overseeing mining but, to date, has not curtailed illegal mining on Yanomami lands.
- Inactive mining concessions and illegal mining areas overlap with about 55 percent of the indigenous lands.
- Over the 15-year period from 2000 to 2015 about 7,000 ha of forest cover were lost in the Yanomami lands, a significant amount although a relatively small percentage (0.07 percent) of the large Yanomami territory. While some of this loss may be linked to agricultural or forestry activities, much of the forest loss is likely associated with the illegal mining operations.
- Outside the Yanomami territory, there was significant forest loss between 2000 and 2015, especially to the east but also on the southern border.



Colombia (Yaigojé Apaporis National Natural Park)

This case shows the extreme measures that some indigenous people will take to protect their lands from mining. The Yaigojé Apaporis Reserve was a formally recognized indigenous territory, but when a mining company sought a concession on the indigenous lands, the Yaigojé Apaporis people asked the government to establish the reserve as a national natural park where mining is prohibited. In doing so, the indigenous people forfeited some of their land use and management rights. The main findings in this case study include:

- By law, mining is not allowed in national natural parks in Colombia.
- In 2007, Cosigo Resources Ltd. (hereafter Cosigo), a Canadian mining company, sought a gold mining concession within the Yaigojé Apaporis Reserve.
- In response, the Yaigojé Apaporis indigenous people asked the government to declare their lands a national natural park. In 2009, the Yaigojé Apaporis National Natural Park was established.
- Two days after the national natural park was established, the government's Department of Mining Services granted a mining concession to Cosigo inside the park. The concession was quickly terminated after the National Parks Unit demanded its cancellation in compliance with the law.
- Several lawsuits by Cosigo followed and, in 2015, the Constitutional Court of Colombia ordered the suspension of all mining exploration and exploitation activities in the park.
- There has been limited forest loss in the Yaigojé Apaporis National Natural Park before and after the park was established. In the 15-year period from 2000 to 2015, the nearly 1.06-million-ha park lost 4,200 ha of forest cover, less than 0.4 percent of its total area. Following the creation of the park in 2009, deforestation dropped in the period 2010 to 2015 from the previous 10 years.



- This contrasts sharply with deforestation outside the Yaigojé Apaporis National Natural Park. One active mining concession on the eastern boundary of the park shows some deforestation. There is also significant deforestation near the northern and southern borders of the park, with some deforestation on the southern border linked to illegal mining along a river. Other rivers north and south of the park are also affected by deforestation.

Ecuador (Shuar indigenous lands)

This case study highlights the importance of indigenous people being formally recognized by the government as indigenous and holding a title to their customary lands, even if formalization is not required for legal recognition. It also provides an example of a government establishing an easement on indigenous lands for industrial mining purposes, and the adverse impacts easements can have on indigenous people and other local communities. The main findings in this case study include:

- In March 2012, the government of Ecuador granted several mining concessions to a Chinese mining company, Ecuacorriente S.A. (ECSA), that overlapped with peasant farmer and Shuar indigenous lands.
- At ECSA's request, the government establish several mining easements on indigenous and farmer lands, and the landholders were forcibly evicted.
- In February 2018, the Amazon Community of Social Action Cordillera del Cóndor Mirador (Comunidad Amazónica de Acción Social Cordillera del Cóndor Mirador, CASCAMI), an organization established by those affected by the mining, sued ECSA, arguing that the mine was developed on ancestral lands and that the evictions were conducted violently and without prior and informed consultation.
- Lower courts ruled in favor of ECSA and the government on the grounds that CASCAMI did not represent indigenous peoples since it also included nonindigenous farmers. A final appeal is currently being prepared for the Constitutional Court of Ecuador, the country's

highest court, and before the United Nations Committee on Economic, Social and Cultural Rights (CESCR).

- The indigenous lands that overlap with the Mirador concessions—the Tundayme and Area Del Proyecto De Desarrollo land—comprised many separate plots of land that collectively total more than 12,000 ha. Overall, the Tundayme and Area Del Proyecto De Desarrollo lands lost about 260 ha of forest cover over the 15-year period from 2000 to 2015, about 2 percent of the total area. Much of the forest loss occurred in the concessions.
- Forest loss increased nearly twofold from the period 2005 to 2010 to the period 2010 to 2015. This corresponds to the time the Mirador project was approved and operations began.

Guyana (Patamona indigenous lands)

This case study highlights the fact that some indigenous peoples in the Amazon mine their land for commercial purposes. Indigenous mining operations must meet the same social and environmental safeguards as all other miners. In this case in Guyana, indigenous mining operations are conducted with the approval of traditional leaders, meet the interests of the community, and allow for indigenous people to capture important mining benefits. The main findings in this case study include:

- Many residents of Campbelltown, who are primarily Patamona indigenous people, mine their land. The indigenous miners have been encouraged by their leaders to find innovative ways to reduce the impact of mining (e.g., El Dorado—Responsible Mining for Guyana Initiative), while also increasing production and profits.
- Like other Patamona villages in Guyana, Campbelltown has requested an extension of its 2006 land title arguing that the title does not include the full extent of its customary lands. The view among coastlander miners (miners from the coast of Guyana) and dredge owners, however, is that the Patamona indigenous people are applying for an extension to gain control of additional mining tracts.

- In the nearly 6,000-ha Patamona lands, 96 ha of forest cover was lost over the 15-year period from 2000 to 2015, about 1.6 percent of the area with the most recent time period (2010 to 2015) showing the greatest net loss.
- Some deforestation has occurred on the Patamona indigenous lands outside the three mining concessions. This forest loss is likely linked to the artisanal and small-scale miners operating on the land with the permission of the village council.

Peru (Shipibo and Ese'Eja indigenous lands)

This case study provides the experience of the Tres Islas community, mainly Shipibo and Ese'Eja indigenous peoples, which effectively used local and national courts as well as the Inter-American Commission on Human Rights (IACHR) to protect its lands from mining. In Peru, the courts are increasingly engaging in the complexities of indigenous affairs, including customary land tenure systems. A growing number of courts now recognize the unique forms of indigenous social organization with regard to their lands and traditional land uses. The main findings in this case study include:

- In the early 2000s, the government of Peru granted more than 100 mining concessions and several logging concessions on Tres Islas' lands without informing or consulting the Tres Islas indigenous community.
- In response, the Tres Islas community assembly decided in August 2010 to construct a booth and wooden gate to control access to its lands. The booth was manned by members of the community.
- Two transport companies sued the Tres Islas community demanding free transit into their lands. The court ruled in favor of the companies and ordered the removal of the booth and gate.
- The Tres Islas community appealed the decision and took the matter to the Peruvian Constitutional Tribunal. In September 2012, the tribunal ruled that the Tres Islas community had the right to control the entry of third parties into its lands. The community reestablished the booth and gate and resumed controlling access to its lands.
- Thereafter, the Tres Islas community sued the regional government of Madre de Dios in the regional Court of Justice over the mining concessions granted without a prior consultation process. In March 2019, the Superior Courts of Justice of Peru declared the 127 mining concessions on the Tres Islas lands, including 8 concessions that were in the process of being granted, to be null and void, and ordered all activities resulting from them to be halted.
- In total, 93 percent of the deforestation that occurred on the Tres Islas lands during the 15-year time period from 2000 to 2015 occurred in the portion of the lands that overlapped with legal and illegal mining areas. Deforestation drastically declined between 2010 and 2015, coinciding with the community regaining control of access to its lands.

Recommendations

The research findings provide compelling evidence of the following:

- The laws governing minerals and mining by third parties on indigenous lands provide indigenous peoples with some rights over their lands and the minerals on and below them. Overall, however, they put indigenous peoples at a legal disadvantage with miners. Legal miners have important authorities to enter onto and use indigenous lands to realize their mineral rights, while indigenous peoples lack critical rights that would help them better protect their lands.
- Many indigenous peoples in the Amazon do not want commercial mining by third parties on their lands and have deployed a range of measures, such as protests and litigation—some successful, others less so—to keep miners off their lands.
- All mining, whether ASM or industrial mining, on indigenous lands is linked to environmental damage, including the loss of forests and associated ecosystem services. Indigenous lands without mining have significantly lower deforestation rates than indigenous lands with mining.

The research findings have implications for indigenous peoples confronted with mining as well as for governments, development assistance agencies, miners, mining companies, NGOs, and other civil society organizations. Five recommendations are provided that recognize the challenges confronting indigenous peoples in the Amazon and that build on the law and experiences in the six research countries. The broader literature on mining makes clear that the challenges and opportunities in the Amazon are not unique. As a result, these recommendations likely also apply to other countries around the world where mining is occurring on indigenous or community lands, threatening people and local environments. The five recommendations are:

Provide strong legal rights to indigenous peoples

While the national laws in the research countries include provisions designed to empower indigenous peoples and safeguard indigenous lands for indigenous peoples, they do not establish the strong legal protections needed for indigenous peoples to manage and use their lands and forests for their own development purposes. Stronger rights would further empower indigenous peoples and help them sustainably manage their lands and protect their forests and other natural resources. Tenure security creates critical incentives for indigenous peoples to make land-related investments in their lands and forests by providing them with high expectations of rights over the returns. The research identified the following four sets of rights critical for indigenous peoples to protect their lands:

- *Land rights:* Like all citizens, indigenous peoples need strong, secure land rights to effectively protect, use, and manage their lands. Governments should review and, if necessary, reform national laws to ensure indigenous peoples have the rights and authorities they need to take charge of their own development.
- *Mineral rights:* Indigenous peoples are empowered when they have more rights and greater control over the minerals (and other natural resources) on and below the surface of their lands.
- *Right of free, prior, and informed consent:* Governments should build on Guyana’s example and recognize the right of free, prior, and informed consent (FPIC)—not just consultation—for indigenous peoples as well as Afro-descendants and other communities regarding mining and other developments that may affect them or their lands.
- *Right of first refusal:* Given the interest of some indigenous peoples to commercially mine their land, governments should build on Colombia’s example and recognize the right of first refusal for indigenous peoples to exploit minerals for commercial purposes.

Establish strong environmental safeguards

National laws in all research countries provide for the protection of forests and the environment. They require miners and mining companies to minimize their environmental impacts, whether mining on indigenous or other lands. While some national environmental safeguards meet international standards, others fall short and should be strengthened to provide the level of protection needed to adequately safeguard forests and their critical ecosystem services, including carbon sequestration. Stronger environmental laws coupled with effective enforcement (see below for details.) will help ensure that the forest homes of indigenous peoples in the Amazon are protected.

To ensure mining operations do not irreparably damage the environment and the nation’s valuable mineral resources provide the promised benefits of local and national development, governments must be more selective in the allocation of mineral rights and mining concessions. Companies with strong track records of mining operations that meet or exceed national and international social and environmental standards, that make use of the latest technologies, and that engage communities and protect forests should be prioritized. Proposal vetting processes should not just focus on the public revenue generated or how quickly the mine can begin production. Broader selection criteria can create incentives for companies to adopt mining practices and technologies that are less damaging to the environment and more supportive of indigenous peoples and other affected communities.



Build indigenous capacity

As the threats to their lands, livelihoods, and well-being escalate, many indigenous peoples realize they lack the expertise, contacts, and resources needed to effectively address these challenges and mitigate the risks. Governments and their development partners can provide training and critical technical and financial resources for indigenous peoples to develop new skills and capacities to better protect their lands and themselves. These include skills to effectively negotiate with mining companies, monitor their lands for illegal activities, and better protect themselves and their community from harm.

To support government operations, indigenous peoples can build skills in collecting data on illegal activities that meet the legal burden of proof. Indigenous organizations and NGOs can raise awareness on the law or rules of evidence and provide training on tools for collecting information that meets the standard of evidence. In recent years, new technologies have been developed and made

available to quickly and precisely map indigenous lands and monitor large areas in real or near-real time, including using data from unmanned aerial vehicles/drones and satellites. At the same time, government agencies and courts of law must accept such information from indigenous peoples in their investigative and sanctioning processes.

As the risks to themselves and their communities increase, indigenous peoples are taking more precautions while carrying out their activism and campaigning safely and effectively. They are also taking steps to defend themselves against harassment and physical attacks. Many land defenders would likely benefit from gaining a better understanding of their legal rights, training on risk assessment information systems, learning how to better recognize threats and minimize risks, building capacity in new approaches to deescalating confrontational situations, and building skills in self-defense techniques.



Ensure responsible mining

All mining in the Amazon, whether by large companies or indigenous peoples, should be responsible mining—mining that is safe, fair, and mitigates social and environmental risks. Governments must provide stronger oversight of mining operations and better enforce applicable laws, but miners and mining companies must also become better corporate citizens and take more responsibility in meeting social and environmental safeguards. New, stronger national laws and regulations are needed to ensure miners operate safely and cause the least social and environmental harm.

Some mining companies and mining associations have established social and environmental standards, made voluntary commitments to responsible mining, and established corporate policies or guidelines that align with the commitments. These efforts are to be applauded and encouraged. There is, however, growing evidence that voluntary approaches do not always lead to responsible mining as many companies fail to meet their standards. At the same time, the effectiveness of company corporate social responsibility (CSR) initiatives in mining (and in

oil and natural gas) is being questioned. Over time, aspects of these voluntary approaches that meet international standards should be incorporated into national laws and regulations.

Companies must also increase their support to indigenous peoples and other communities and negotiate fairer agreements that provide benefit-sharing packages that address community interests and strengthen local capacity for self-determined development. Indigenous people should insist on formal agreements and governments should mandate them. Such community-company benefit-sharing agreements should include both financial and nonfinancial benefits.

Ensure effective implementation and law enforcement

To protect indigenous peoples, their lands, and their livelihoods, Amazonian governments must strengthen the public institutions with critical roles in advancing indigenous matters. These include government agencies and departments responsible for establishing and implementing indigenous policies; for mapping, demarcating, and



documenting indigenous lands; and for preventing invasions of indigenous territories by unauthorized outsiders. The National Indian Foundation (Fundação Nacional do Índio, FUNAI) in Brazil, the Ministry of Culture (Ministerio de Cultura) in Peru, and similar agencies in other countries must be empowered—politically, legally, and practically—with sufficient human and financial resources to effectively discharge their roles.

Amazonian governments must also strengthen their oversight of mining on indigenous lands. Mining operations must conform with the law and meet the provisions of license and concession agreements. Government efforts should not be limited to capturing and prosecuting illegal miners on indigenous lands. These efforts should also target the individuals who hire, finance, or otherwise facilitate the illegal miners. Those who sell and profit from the illicit trade in gold, diamonds, and other minerals must also be identified and prosecuted.

Amazonian governments—and consumer country governments—can address the demand for gold and other minerals that are illegally mined by

establishing certification systems. Such schemes can promote actions by miners that protect forests and respect indigenous peoples. Governments should identify an appropriate set of standards for responsible mining in the Amazon and build a chain-of-custody certification process. This system would track certified minerals through the extraction, processing, transformation, manufacturing, and distribution processes. Independent auditors would then be in a position to assess production and issue certificates to mining operations that comply with the agreed-upon standards.

Consumer country governments can support the implementation of responsible sourcing certification schemes. For example, they can implement an outreach and information campaign designed to educate consumers about the value of purchasing certified minerals or products that use them. They can also encourage responsible mineral sourcing through public procurement rules by requiring bids to contain certified minerals or through preferential bid evaluation.

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Established in 2007, RAISG is a network of eight civil society organizations from six Amazonian countries (Bolivia, Brazil, Colombia, Ecuador, Peru, and Venezuela) with extensive work experience with the Amazon and its indigenous peoples. The organizations include: Friends of Nature Foundation (Fundación Amigos de la Naturaleza, FAN, Bolivia), Institute for the Common Good (Instituto del Bien Común, IBC, Peru), Gaia Amazonas Foundation (Fundación Gaia Amazonas, FGA, Colombia), Ecuadorian Foundation for Ecological Studies (Fundación Ecuatoriana de Estudios Ecológicos, EcoCiencia, Ecuador), Provita (Provita, Venezuela), Wataniba (Wataniba, Venezuela), Amazon Institute of People and Environment (Instituto de Hombre y Medio Ambiente de la Amazonía, Imazon, Brazil), and Socio-environmental Institute (Instituto Socio-ambiental, ISA, Brazil). RAISG produces and disseminates knowledge, statistical data, and geospatial information on Amazonia.

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