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DYNAMICS OF THE ECOSYSTEM OF ENVIRONMENTAL CRIME IN THE LEGAL AMAZON

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DYNAMICS OF THE ECOSYSTEM OF ENVIRONMENTAL CRIME IN THE LEGAL AMAZON

Introduction

The Brazilian Legal Amazon is the site of a complex ecosystem of environmental and related non-environmental crimes that impact both the environment and the people living there. **Organized environmental crime**¹ contributes in many ways to the destruction and degradation of the forest, significantly accelerating land use changes in the world's largest tropical forest. The loss of Amazon forest cover is causing irreversible damage to Brazil and the world by accelerating climate change.

Despite growing recognition among actors inside and outside the Brazilian state,² there is still a lack of systematic and in-depth understanding of the scope, scale, and dynamics of organized environmental crime in the Amazon region. While there has been significant progress in the development of georeferenced information systems to monitor deforestation in the Legal Amazon – an area spanning nine states in the northern region of the country – Brazil lacks data on organized crime to assist the government and society in addressing one of the most significant challenges of our time.

To understand the characteristics of environmental crime in the Amazon basin, the Igarapé Institute launched a series of studies. Two studies were published to provide a detailed assessment of the Brazilian Amazon. The first study, *The Ecosystem of Environmental Crime in the Amazon: An Analysis of Illicit Rainforest Economies in Brazil*,³ examined 369 operations carried out by the Federal Police in the states of the Legal Amazon between 2016 and 2021. The main findings of this study highlighted the four **illicit activities** that are the major contemporary drivers of the destruction and environmental degradation of the forest: public land grabbing, illegal logging, illegal gold mining, and livestock farming activities involving illegal practices, especially illegal deforestation.

The study further revealed that environmental crime does not occur in isolation. It is part of a criminal network involving other crimes such as fraud (identified in 30% of the operations), corruption (21%), money laundering (20%), illegal possession of firearms, ammunition, and explosives (18%), and violent crimes against individuals (5%). Organized crime was involved in 50% of the operations.

The second study in the series, *Connecting the Dots: Territories and Trajectories of Environmental Crime in the Brazilian Amazon and Beyond*,⁴ shed light on the pathways of environmental crime in the region and how other locations within and outside the Legal Amazon, and even abroad, participate in this ecosystem. Environmental crime in the Legal Amazon is far from a local issue, implicating 24 of the 27 Brazilian states. São Paulo was the state with the most connections to environmental crimes investigated by the Federal Police in the states of the Legal Amazon.

Updating the data on Federal Police operations in the Legal Amazon up to 2022 is crucial not only to understand the Brazilian state's efforts in combating organized environmental crime in the region but also to reveal the main associated dynamics. This update is particularly important given the ongoing dismantling of public policies and regulatory frameworks for forest protection.⁵

This analysis provides an overview of the different crime patterns in the states that make up the Legal Amazon drawn from Federal Police operations. The first part presents a panorama of operations carried out in 2022, compared to the previous study covering 2016 to 2021. The second part highlights the transnational connections of environmental crime, links between environmental crimes and drug-related offenses, the presence of rural militias, and a detailed focus on these crimes in Indigenous Lands.

Part I: Ecosystem of Environmental Crime in the Legal Amazon in 2022

In 2022, we observed a shift in the focus of Federal Police operations in the Legal Amazon compared to 2016-2021 ([see appendix 1](#)). Of the 144 operations analyzed in 2022, illegal mining remained the primary target, accounting for 54.7% of the actions that year. However, unlike in previous years, illegal deforestation, rather than illegal logging, became the second primary focus, with 26.39% of operations. Additionally, there was a change in the police approach, with increased operations targeting livestock farming activities involving illegal practices within their production chain (17 operations), surpassing actions against public land grabbing (16 operations).

Analyzing these data can reveal significant aspects of environmental criminal dynamics in the Legal Amazon and the role of the Federal Police. Although the number of operations targeting livestock farming activities involving illegal practices within their production chain is limited, in 2022, these operations showed a higher complexity, with investigations expanding to other illicit activities.

For example, the relationship between illegal livestock farming activities and illegal mining was highlighted by Operation Illegal Mining,⁶ which the Federal Police carried out against an agricultural company in Roraima. The investigation revealed that the partners of a farm were involved in the illegal purchase and export of gold to Pará, using clandestine airstrips to transport the mineral to Itaituba, where it was mixed with gold from regularized mines to disguise its illegal origin. Additionally, Operation Saturnos⁷ highlighted the involvement of a prominent agribusiness entrepreneur in unauthorized mining activities in Pará.

This shift in the targets of operations suggests a strategic adaptation by the authorities, possibly in response to changes in criminal dynamics in the region or institutional priorities.

Table 1. Interaction between different illicit economies in 2022

Information extracted from 144 Federal Police operations. Note that a single operation can have multiple focuses, resulting in a total number (n) greater than 144.

Focus	ILLEGAL DEFORESTATION (n=38)	ILLEGAL LOGGING (n=35)	PUBLIC LAND GRABBING (n=16)	AGRICULTURE AND LIVESTOCK FARMING ACTIVITIES INVOLVING ILLEGAL PRACTICES WITHIN THEIR PRODUCTION CHAIN (n=17)	ILLEGAL MINING (n=78)
ILLEGAL DEFORESTATION	-	27 (77.14%)	11 (68.75%)	7 (41.18%)	8 (10.26%)
ILLEGAL LOGGING	27 (71.05%)	-	10 (62.5%)	6 (35.29%)	2 (2.56%)
PUBLIC LAND GRABBING	11 (28.95%)	10 (28.57%)	-	10 (58.82%)	1 (1.28%)
AGRICULTURE AND LIVESTOCK FARMING ACTIVITIES INVOLVING ILLEGAL PRACTICES WITHIN THEIR PRODUCTION CHAIN	7 (18.42%)	6 (17.14%)	10 (62.5%)	-	4 (5.13%)
ILLEGAL MINING	8 (21.05%)	2 (5.71%)	1 (6.25%)	4 (23.53%)	-
Total	53	45	32	27	15

Source: Prepared by the Igarapé Institute based on proprietary data.

The table above highlights critical characteristics of the environmental crime dynamics identified by the Federal Police operations in the Legal Brazilian Amazon in 2022, following a pattern noted in previous studies.⁸

Illegal logging is linked to public land grabbing, illegal deforestation, and, to a lesser extent but still significantly, to agriculture and livestock farming activities involving illegal practices within their production chain. This association supports the *modus operandi* of unlawful occupation and appropriation of public lands in the Legal Amazon, especially indigenous lands.

The analysis of the Federal Police operations in 2022 showed that, in most cases, criminals primarily targeted indigenous lands through illegal deforestation to appropriate these areas. Of the 16 Federal Police operations focused on combating public land grabbing, 11 occurred within indigenous lands. Illegal logging is often the initial step in exploiting natural resources on grabbed land. Once the original vegetation is degraded, the deforested area is converted into pasture for cattle.

Operation SOS Karipuna IV⁹ exemplifies how these crimes occur within indigenous territories, including protected areas. The operation aimed to destroy illegal bridges used by land grabbers, loggers, and ranchers as invasion routes into the Karipuna Indigenous Land, facilitating the removal of illegally harvested timber and cattle grazing within the area.

The most significant association of illegal deforestation was with illegal logging, corresponding to 23.68%. In the previously analyzed period (2016-2021), the primary connection between illegal deforestation operations was public land grabbing, representing 31%. In 2022, this relationship saw a significant reduction, corresponding to only 13%, indicating a shift in criminal dynamics, now focusing on exploiting timber rather than merely deforesting or reflecting changes in the Federal Police's approach.

As in previous years, the interaction between illegal mining and other environmental crimes remained low, occurring independently, according to the Federal Police operations analyzed. The association between illegal mining, illegal deforestation, and other environmental crimes decreased compared to operations carried out between 2016 and 2021.

Agriculture and livestock farming activities involving illegal practices within their production chain showed a stronger connection with the invasion and appropriation of public land. This likely stems from the nature of these crimes, as seized lands are often used for livestock farming activities, resulting in deforestation for this specific purpose. The link to mining, present in four operations, is less apparent and may indicate a diversification of activities by criminal groups also engaged in mining, possibly to facilitate laundering proceeds from illegal livestock farming activities.

Progress in Combating Livestock Farming Activities Involving Environmental Violations in the Legal Amazon

In 2022, operations targeting livestock farming activities involving illegal practices within their production chain in the Legal Amazon not only increased to 17 operations (the highest number in the historical series) but also became more complex, with evidence of transnational connections and economic crimes, especially money laundering.¹⁰

Of these 17 operations, two focused on repressing the smuggling of illegal pesticides, revealing transnational criminal dynamics involving national and regional actors. Operation Mãe Terra,¹¹ carried out in Mato Grosso in collaboration with the Ministry of Agriculture, Livestock, and Food Supply (Mapa), identified the use of illegal pesticides on rural properties linked to the suspects. Additionally, evidence pointed to illicit activities related to suspicious large-scale bank transactions identified by the Council for Financial Activities Control (COAF). The lifting of banking secrecy revealed that suspects involved in the illegal fertilizer trade moved R\$ 154 million over two years. Part of this amount was allocated to individuals with a criminal record involving the illicit use of agricultural pesticides, and its origin was not identified.

Combating livestock farming activities involving illegal practices within their production chain also featured in four operations primarily focused on illegal mining. Operation Mercúrio,¹² carried out in Pará and Tocantins, identified a possible new form of money laundering involving the purchase of farms with proceeds from illegal mining.

The 2022 operations revealed increased visibility of economic crimes and risky behaviors.¹³ Operation Julius Caesar,¹⁴ aimed at combating a fraudulent land regularization scheme, identified fraud practices, ideological falsehood, and invasion and appropriation of public lands.

1. Crimes Related to Environmental Crimes

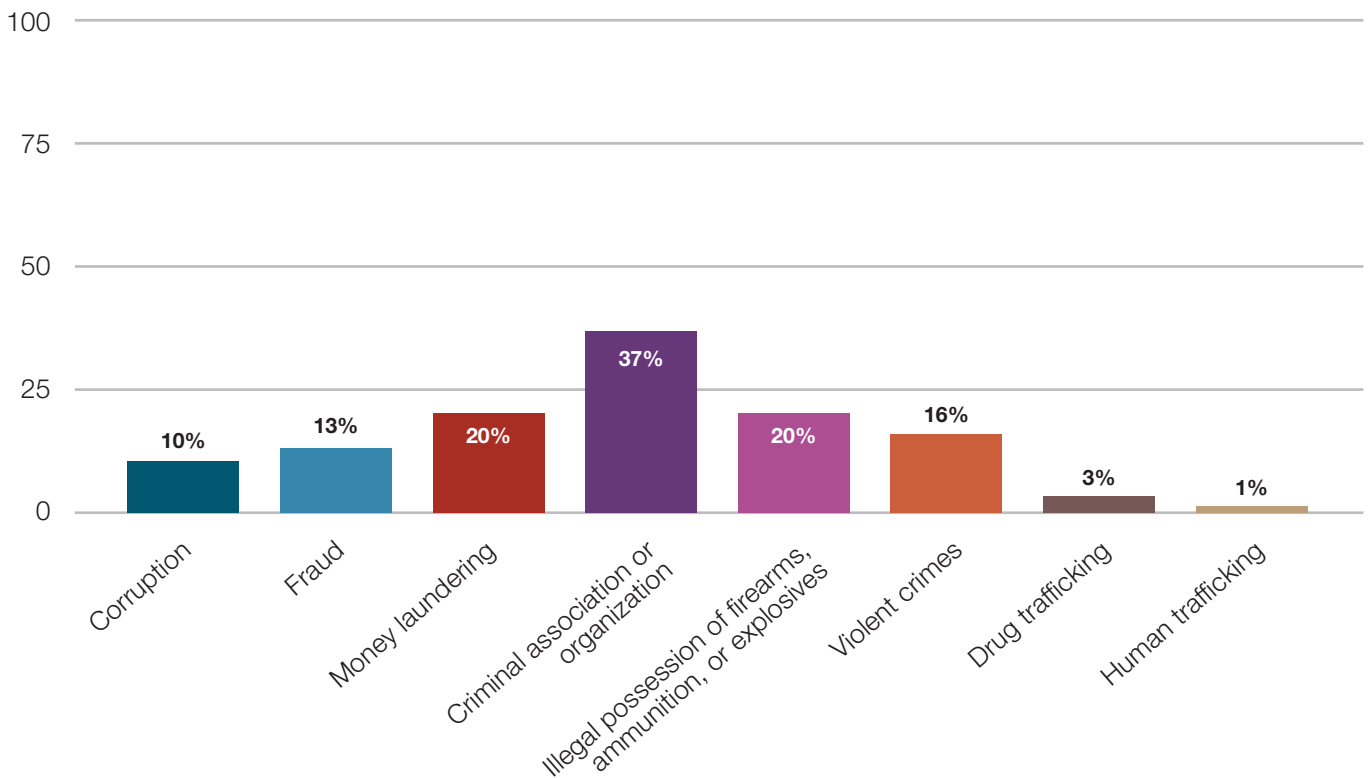
Environmental crimes drive deforestation and cause severe damage to the environment, biodiversity, and local populations. These crimes are highly complex in their financing, execution, and self-benefit. They are part of an ecosystem where environmental crimes are linked with non-environmental crimes, which

enables their occurrence. This range of non-environmental crimes is referred to here as related crimes.¹⁵

The 144 operations combating environmental crimes in the Brazilian Legal Amazon analyzed in 2022 identified criminal hypotheses such as corruption, fraud, money laundering, criminal association or organization, illegal possession of firearms, ammunition and explosives, violent crimes, and drug and human trafficking.

Figure 1. Related crimes investigated by the Federal Police (2022) ([see comparison in appendix 2](#))

Information gathered from 144 Federal Police operations.



Source: Prepared by the Igarapé Institute based on proprietary data.

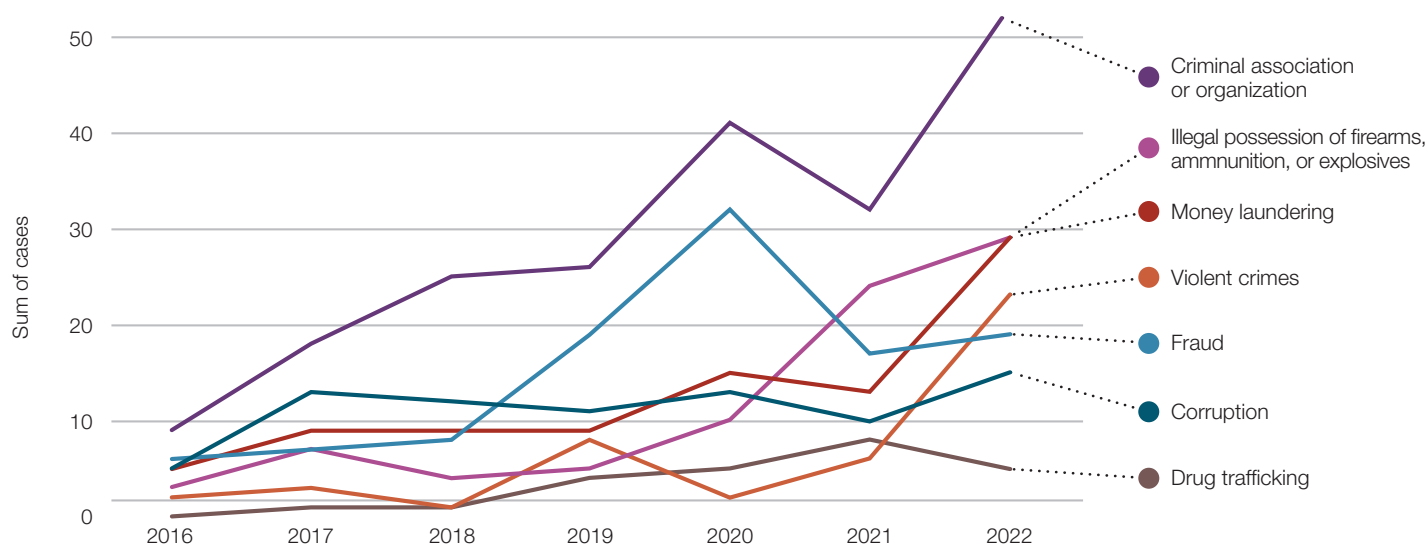
Among the identified related crimes, the prevalence of criminal association or organization stands out, supporting the hypothesis that environmental criminality in the Brazilian Legal Amazon is structured and coordinated. This also indicates a strategy by investigative and prosecution authorities to bring charges with more severe penalties, given that environmental crime penalties are relatively lenient and allow for plea bargaining. Also noteworthy are the crimes of money laundering and illegal possession of firearms, ammunition and explosives. Violent crimes, such as threats to local communities and conflicts with indigenous communities, rank fourth.

These data suggest the sophistication of environmental crime, with specialized groups for money laundering while simultaneously conducting violent actions. The prominence of violent crimes and illegal possession of firearms, ammunition and explosives underscores the complexity and coordination required for these operations.

Operation Menacia¹⁶ illustrates this context. Its goal was to dismantle a criminal group involved in environmental crimes and threats against a public servant of the Brazilian Institute of Environment and Renewable Natural Resources (Ibama). The suspects not only made death threats but also attempted, unsuccessfully, to set fire to an Ibama supply truck and obstruct public environmental oversight. The investigation confirmed the direct involvement of some of the targets in the illegal reception, acquisition, transportation, and storage of timber.

Comparing data from operations carried out between 2016 and 2021,¹⁷ there is a notable increase in the category of illegal possession of firearms, ammunition and/or explosives, which appeared in 16% of the analyzed operations. Indictments for violent crimes also increased, from 6 in 2021 to 23 in 2022. When combining these two categories to analyze the violence associated with environmental crimes, they rank second, nearly tied with the category of criminal association or organization, which may indicate an increase in violence in the commission of environmental crimes.

Figure 2. Temporal evolution of related crimes (2016-2022)



Source: Prepared by the Igarapé Institute based on proprietary data.

Part II: Key Highlights of Environmental Crime Dynamics

The analysis of Federal Police operations reveals key insights into the functioning of environmental crime in the Legal Amazon. Below, we highlight some of these dynamics observed in operations from 2016 to 2022.

1. The Regional and Cross-Border Dimension of the Environmental Crime Ecosystem in the Legal Amazon

The studied Federal Police operations reveal specific manifestations of the regional and transnational environmental crime ecosystem at the Amazonian borders, whether bi-national or tri-border. Among the most prevalent illicit economies in the Legal Amazon, illegal mining stands out due to its cross-border dimensions. For example, Brazilian entrepreneurs, machinery, and capital are involved in the illegal acquisition of gold from Venezuela¹⁸ or the illicit extraction of the mineral in French Guiana. The subsequent laundering in Brazil is facilitated by vulnerabilities in Brazil's gold trade system.¹⁹

Gold, diamonds, and other precious stones are illegally extracted in Brazilian territory and sold to neighboring countries. Operation Adamas,²⁰ carried out by the Federal Police in 2022, aimed to combat the illegal extraction of diamonds and other precious stones from the Roosevelt Indigenous Land in Rondônia. Indigenous people and suspects transported these precious minerals to Guajará-Mirim, where they were sold. From there, the diamonds were taken to Bolivia and subsequently to Europe.

The Brazilian Federal Police operations from 2016 to 2022 indicate clear patterns of illegal gold extraction in other countries, afterward laundered in Brazil, integrating into the legal market. Operation Au 92,²¹ carried out in 2022, exemplifies this pattern. The Federal Police obtained documents proving the involvement of a criminal organization specializing in the transnational trade of minerals, particularly gold and uranium, in the state of Amapá. The group engaged in document forgery to legitimize the minerals, facilitating their trade in the black market from Amapá to other states. In some instances, the illicit product was destined for countries in Europe.

The Federal Police identified evidence suggesting that part of the gold was extracted in French Guiana and Suriname and laundered in Calçoene's district Lourenço, Amapá. The material was stored in Macapá and Porto Grande and transported to other states through clandestine airstrips in Amapá. The gold extracted in Venezuela was sold in Boa Vista, Roraima.

Another significant dynamic in the case of gold is the increasing involvement of regional armed groups in drug trafficking and, increasingly, in illegal transnational mining, such as the FARC dissidents from Colombia. These groups are expanding their operations beyond their borders, starting with extraction sites near the frontier. In 2021, the Brazilian Federal Police identified Colombian groups operating in Japurá, Amazonas,²² as well as the transnational movement of workers directly involved in illegal mining, particularly between Brazil, Colombia, Venezuela, and French Guiana.²³

2. Police Officers Working as Private Security for Illicit Economic Activities

The use of police officers in the private security of environmental crimes represents a concerning aspect of criminality in the Legal Amazon, as identified in six Federal Police operations during the analyzed period. Previously identified in some studies, these rural militias,²⁴ sometimes described as a “consortium” composed of local gunmen and military police officers, aimed to facilitate and protect the illegal activities of farmers, land grabbers, loggers, and miners in the Amazon Legal states.

Unlike urban militias, which are generally involved in territorial control, extortion, and other criminal activities within urban communities, rural militias focus on ensuring the safety of those committing environmental crimes.²⁵ This includes the expulsion and threats against local communities, primarily indigenous peoples and settlers, who often come into conflict while resisting invasions and the destruction of their territories. Operation Deforest I,²⁶ carried out in Rondônia in 2019, discovered that the criminal organization involved in public land grabbing and illegal logging maintained an armed team to protect the land interests of their leader. The group used their economic power and the positions held by “team members” within official security forces to intimidate local residents.

According to the investigations, the criminal organization was composed of business people, police officers, gunmen, and other individuals who intimidated and threatened farmers in the Cujubim region, aiming to seize their lands. The operations combating organized environmental crime that identified these rural militias also revealed the direct involvement of state police officers in the criminal scheme.

According to Operation Ojuara,²⁷ the criminal organization led by farmers established, maintained and financed a private militia composed of military police from the region. These officers used the intimidating force of their uniforms, firearms, and police vehicles to protect machinery and deforested areas, collect debts, and expropriate assets from individuals indebted to the farmers who hired them. These rural militias operate parallel to the state, characterized by intimidation, threats, and various forms of violence against those who oppose their interests.

Operation Res Capta,²⁸ carried out in Mato Grosso in 2022, aimed to dismantle a scheme for leasing indigenous lands for cattle grazing. The operation revealed that the defendants acted as an armed force, leasing indigenous lands to rural producers. Among the investigated public servants, three stood out, including a military police sergeant who wore military-style clothing, openly carried firearms, and exhibited a notable presence that indicated police power. Additionally, they used intimidation through veiled or direct threats and physical or psychological violence against the local community.

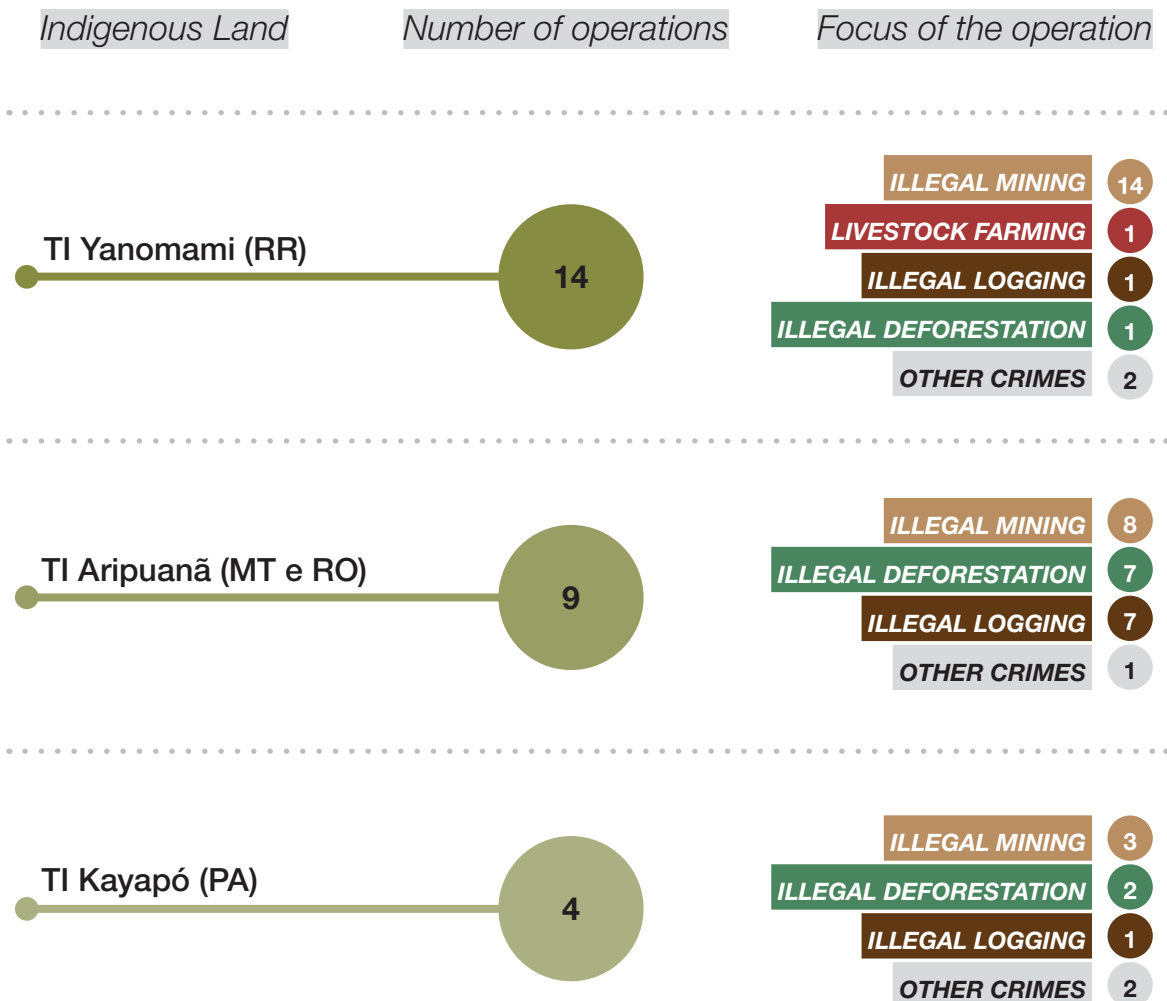
3. Indigenous Lands Under Threat

Indigenous lands in the Legal Amazon are constant targets of environmental crimes. According to the study *Connecting the Dots: Territories and Trajectories of Environmental Crime in the Brazilian Amazon and Beyond*,²⁹ Federal Police operations between 2016 and 2021 focused on suppressing illegal logging and mining in these areas.

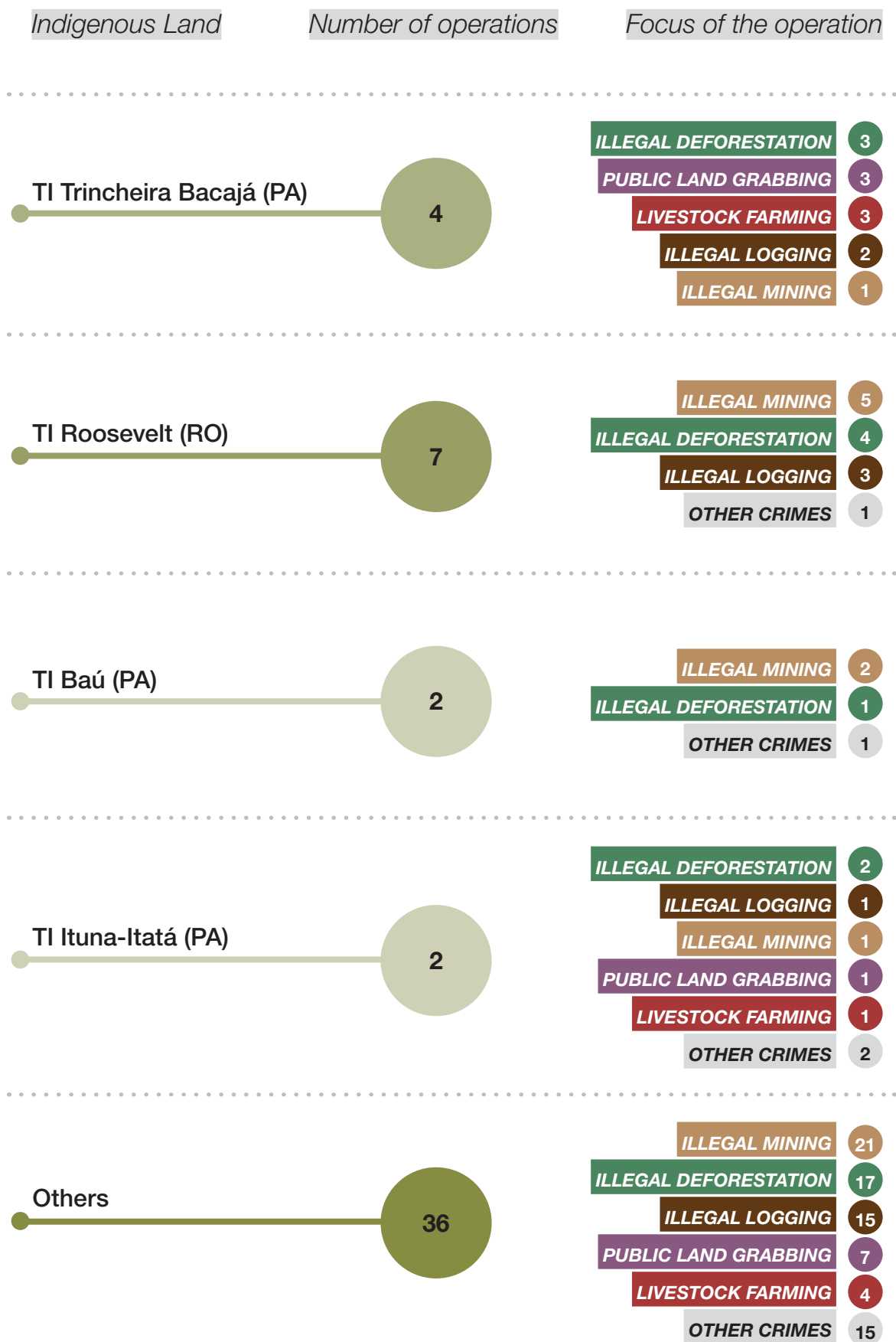
Operations carried out in 2022 suggest a possible expansion of focus. Of the 144 operations that year, 69 occurred within indigenous lands, primarily targeting illegal mining and deforestation.³⁰ Notably, nine operations aimed at combating illicit agriculture and livestock farming activities in these territories, a focus not identified in the previous period. The focus of operations in Indigenous Lands is detailed in the table below:

Table 2. Number and Focus of Operations in Indigenous Lands in 2022

n > because an operation can have more than one focus and more than one Indigenous Land.



continuation



Source: Prepared by the Igarapé Institute based on proprietary data.

4. Link Between Organized Environmental Crime and Drug-Related Offenses

Out of the total operations analyzed (144), 24 link environmental crimes to drug-related crimes. Though apparently small, this number suggests that these types of crimes overlap and interrelate in the Amazon region. Analyzing the characteristics of drug-related crimes in these operations, almost all (22) involve drug trafficking. In two cases, the related crime was marijuana cultivation or possession for personal use.

This **link** manifests in several ways: groups and individuals already engaged in drug trafficking, such as the Brazilian Primeiro Comando da Capital (PCC) or dissidents of the Revolutionary Armed Forces of Colombia (FARC),³¹ are investigated for environmental crimes and increasingly for money laundering from drug trafficking. This is particularly noted in cases of illegal mining and logging (14 and 8 operations, respectively), as well as public land grabbing and subsequent conversion for unlawful farming and ranching.³²

Operation Gold Rush,³³ carried out by the Federal Police in 2022, highlights the link between drug trafficking and illegal mining. The arrest of an individual for drug trafficking led to the discovery of an illicit gold trade and money laundering scheme, which may have moved over R\$ 300 million in five years. Analysis of the suspect's finances led investigators to a jewelry store in Roraima, which, according to the Federal Police, was used to hide the illicit origins of part of the money obtained from the illegal gold trade in 20 Brazilian states.

Operation Comando,³⁴ carried out by the Federal Police in Pará in 2022, uncovered cases of logistical sharing between drug trafficking and environmental criminal organizations. These included using aircraft to transport drugs and gold and trucks and ships for drugs and timber. Initially focused on drug trafficking, the investigation revealed the use of aircraft in the scheme. After identifying one such aircraft, authorities located its hangar and administrator.

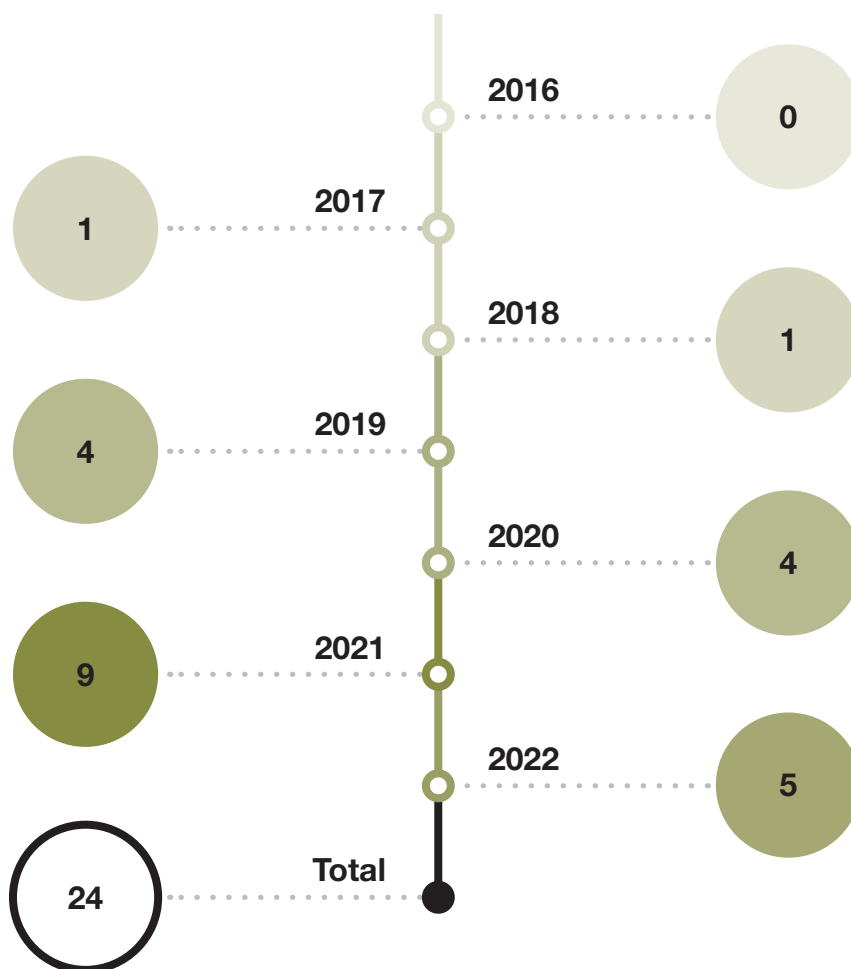
Following the arrest of a drug supplier in Paraguay, the hangar ceased its use for trafficking but was then used for illegal gold transport. The gold was transported from Pará to São Paulo using the same hangar, whose administrator was under investigation for drug trafficking. The investigation identified various individuals involved in this illicit activity, including pilots, intermediaries, miners, and their owners, resulting in numerous seizures of illegally extracted and traded gold.

The Federal Police investigations also targeted criminal organizations acting as security forces in illegal mining areas within Indigenous Lands, such as Sai Cinza and Munduruku in Pará, targeted in Operation Divitia 709 in 2021.³⁵

Another significant case was the identification of former FARC dissidents involved in drug trafficking and illegal gold mining in the Brazilian Legal Amazon during Operation Alóctonas,³⁶ in Amazonas in 2021. This operation led to the arrest of two FARC dissidents and miners invading the Japurá region, trafficking firearms, drugs, and illegally mining gold.

In 2022, the Federal Police mapped five operations linked to laundering drug trafficking money through illegal mining in the Amazon. These illegal mining locations varied (Pará, Mato Grosso, Roraima), indicating that this link spans various areas of the Legal Amazon. In all of the operations mapped in 2022, investigations pointed to international drug trafficking with connections in Peru, Colombia, Paraguay, and Venezuela.

Table 3. Number of operations per year with indications of organized environmental crime and drug crimes (2016-2022)



Source: Prepared by the Igarapé Institute based on proprietary data.

Final Considerations

The history of Amazon rainforest destruction is tied to the expansion of environmental crimes and the constellation of other crimes that sustain or are associated with them. This complex panorama involves various legal and illegal actors contributing to the degradation of the country's natural heritage. These systems are intrinsically linked, with the products of crimes integrating into legal markets. The analysis of 2022 data reveals a worrying scenario, but it also indicates ways to more effectively combat environmental crime in the Brazilian Legal Amazon.

Federal Police operations show an increasing trend in actions targeting agriculture and livestock farming tainted by unlawful practices. This reflects the need for more robust and integrated strategies to curb illicit activities in the region, such as strengthening surveillance, improving monitoring and traceability systems of the production chain, and illicit financial flows. Illegal mining remains the leading illicit economy targeted in operations.

Moreover, there are indications that environmental crimes are becoming more violent, with an increase in violent crimes of this nature and the use of firearms, especially in deforestation, logging, and mining activities.

There has been a decline in the number of operations highlighting the connection between environmental crimes and fraudulent and corrupt activities. The identification of money laundering has decreased in deforestation, logging, and mining crimes, but has increased in cases of land grabbing and livestock farming.

Federal Police operations show a rising trend in combating illegal activities within the farming and ranching production chain. This highlights the need for more robust and more integrated strategies, such as enhanced surveillance, improved monitoring and traceability systems, and addressing illicit financial flows. Illegal mining remains the primary illicit economy targeted in these operations.

Additionally, there are signs that environmental crimes are becoming increasingly violent, with a rise in such activities and the use of firearms, particularly in deforestation, logging, and mining operations.

There has been a decline in operations indicating links between environmental crimes and fraudulent and corrupt activities. The identification of money laundering has decreased in deforestation, logging, and mining crimes but increased in public land grabbing and farming and ranching cases.

The analysis by the Igarapé Institute suggests that environmental crime networks are increasingly interconnected with transnational crime and drug trafficking, heightening the challenge for control and repression authorities. Among the illicit economies analyzed, mining shows the strongest association with drug trafficking.

Additionally, the involvement of rural militias adds a layer of complexity and violence to the environmental crime landscape, requiring coordinated and robust responses from the state, including the strengthening of the correctional system. The illegal exploitation of resources in Indigenous Lands remains a central concern, given the vulnerability of these areas to criminal activities.

Finally, this study highlights the urgent need for an integrated and systematic approach to tackle environmental crime in the Brazilian Legal Amazon. It is essential to strengthen public policies and regulatory frameworks, improve monitoring systems, and expand international cooperation. Only with a coordinated and effective response will it be possible to preserve the largest tropical rainforest on the planet and protect the rights of Amazonian communities.

Methodological Note

This study relies on two databases constructed using the same methodology. The first database includes the 144 Federal Police operations carried out in 2022, while the second encompasses the 369 operations combating environmental crime from 2016 to 2021 (forming the basis of the publication of the previous two studies in the series).

The two databases were compiled by the Igarapé Institute through requests under the Access to Information Law (LAI) and active searches for information on Federal Police operations in the Legal Amazon on sources such as the Federal Police, the Federal Prosecutor's Office (MPF), the Brazilian Institute of Environment and Renewable Natural Resources (Ibama), and news outlets like *G1*, *Isto É*, and *O Globo*, up to December 31, 2022.

After collecting the information, each operation was categorized considering several variables, including the state where the operation occurred, the specific location of the environmental crime, cross-border and transnational connections, the focus of the operation (such as illegal deforestation, illegal mining, illegal logging, public land grabbing), the environmental crimes investigated in each case, and categories of non-environmental related crimes investigated and/or indicted during the operations, such as corruption, fraud, money laundering, drug trafficking, illegal possession of firearms, and violent crimes.

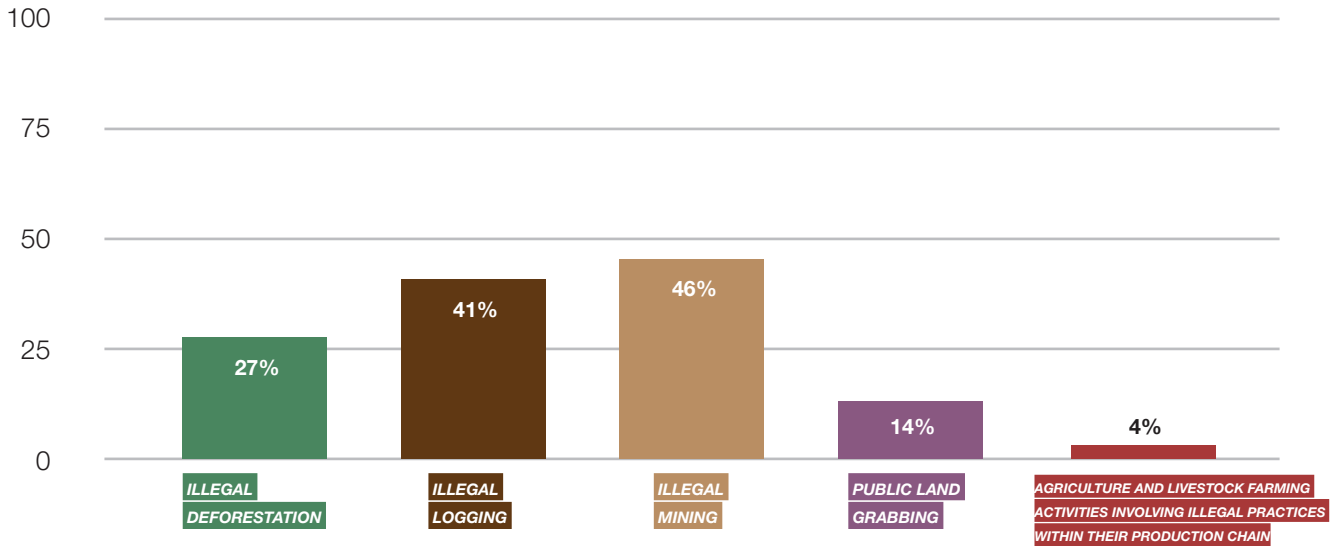
The insights presented in this Technical Note regarding the dynamics of environmental crime in the Brazilian Legal Amazon highlight both potentialities and limitations. One limitation is methodological, stemming from the database, which was not compiled from the full content of police inquiries or criminal proceedings. The second limitation refers to the analytical part of the proposed approximation exercise. Federal Police operations are valuable but also limited as indicators of the patterns of organized environmental crime in the Amazon. The operations serve as a proxy for understanding the issue based on the institution's biases and do not encompass the entirety of it.

Administrative or criminal accountability operations are the Brazilian state's attempts to address this multifaceted issue. Regarding the Federal Police, as analyzed here, the judicial police's role complements that of environmental agencies by administratively holding perpetrators accountable for environmental violations. However, the Federal Police focuses on investigating federal crimes and those occurring on public lands, adhering to its operational competencies. The FP faces personnel limitations in the Brazilian Legal Amazon, particularly within the environmental team. Additionally, these operations are influenced by the stakeholder's political, operational, and legal decisions.

Appendix

Appendix 1. Scopes of operations by type of illicit economy (2016-2021)* [\(go back to reference\)](#)

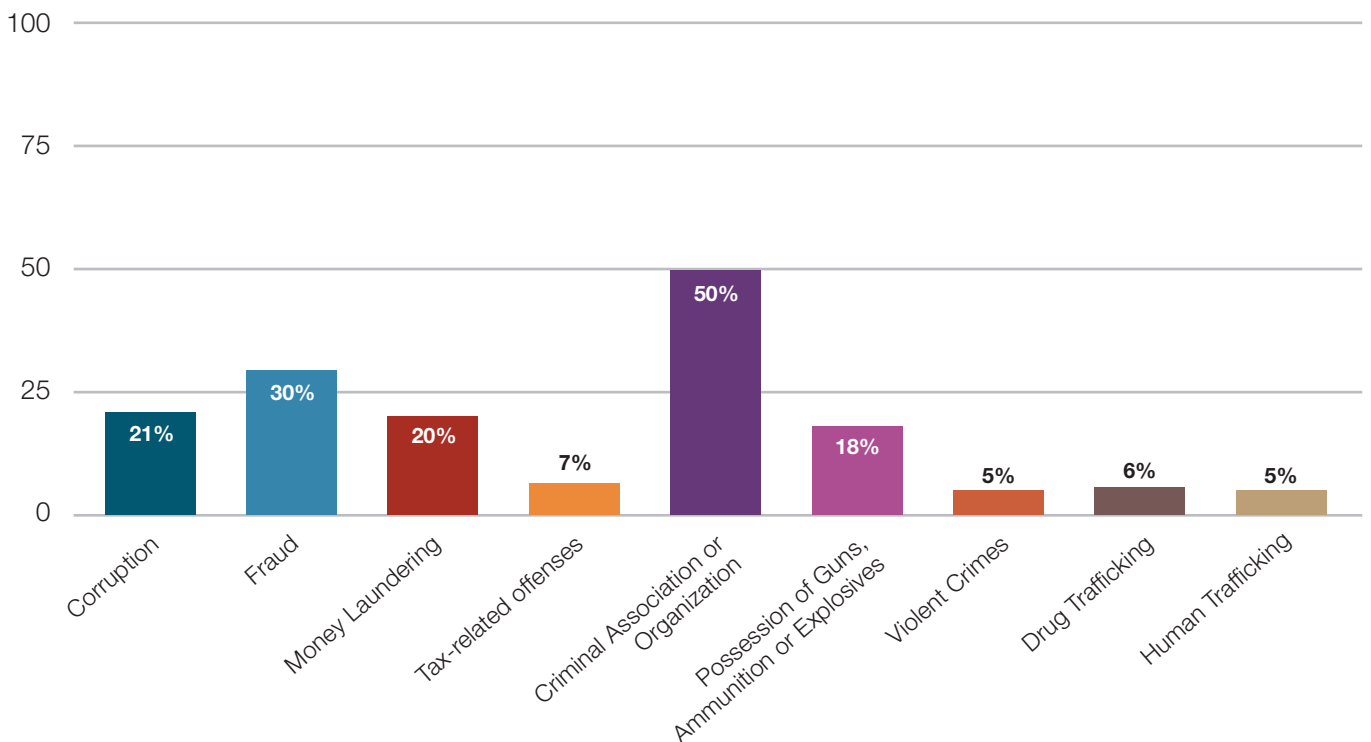
Data collected from 369 operations carried out by the Federal Police
 *n > 369, as one operation can have more than one target



Source: Igarapé Institute (2022). *The ecosystem of environmental crime in the Amazon: an analysis of illicit rainforest economies in Brazil*. Figure 3 (p. 11).

Appendix 2. Converging Crimes Investigated by the Federal Police (2016-2021)* [\(go back to reference\)](#)

Data collected from 300 Federal Police operations
 *n > 300, assuming that operations may investigate more than one converging crime



Source: Igarapé Institute (2022). *The ecosystem of environmental crime in the Amazon: an analysis of illicit rainforest economies in Brazil*. Figure 10 (p. 31).

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30. A hypothesis that could also explain the increase in operations in indigenous lands in 2022 is due to ADPF 709. This was a judicial action filed with the Supreme Federal Court (STF) by the Articulation of Indigenous Peoples of Brazil (APIB) and six political parties. ADPF 709 argued that the government was not taking the necessary actions to combat environmental crimes such as illegal deforestation and invasions by miners and loggers, nor was it implementing adequate sanitary measures to protect indigenous peoples from COVID-19. See more at: APIB (2020). [ADPF 709 no Supremo: Noivos Indígenas e o Direito de Existir!](#)
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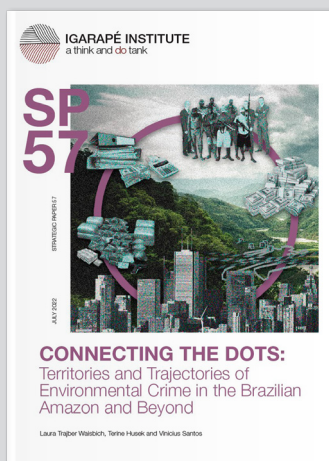
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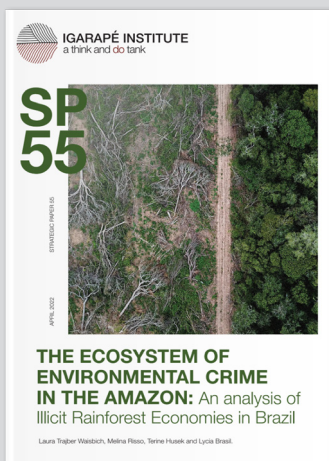
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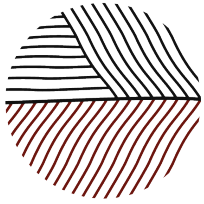
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