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The Price of Weakness

Hydrocarbon Looting and the Erosion of the Colombian State

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EXECUTIVE SUMMARY

Colombia's hydrocarbon sector faces an acute security and governance crisis, characterized by systemic looting of oil and its derivatives. This crisis is not the result of sporadic criminal behaviour, but the product of deeply entrenched structural weaknesses in the Colombian state. These vulnerabilities are embedded within historical patterns of governance designed to uphold unequal power structures and extractive economic models, rather than to provide inclusive development or effective territorial control. Instead of being a failed version of a strong state, Colombia exemplifies what scholars call an exceptionally well-crafted weak state — one that functions effectively for certain interests while systematically excluding others.

The state's fragmented institutions and limited ability to enforce sovereignty, particularly in rural and conflict-affected regions, have fostered a fertile environment for organized armed groups (OAGs) to loot crude oil and use it to finance their illicit operations. These groups exploit the absence of regulation, capitalize on weak territorial control and benefit from the complicity or negligence of both public and private actors. At the same time, private companies often accept losses as part of the cost of doing business, underinvest in preventive measures and delegate security responsibilities to actors with no incentive to ensure long-term stability.

To survive, vulnerable communities facing poverty and limited opportunities frequently co-operate with illegal actors, thus participating in a cycle that perpetuates instability and criminal economies. This complex interplay of opportunism, limited accountability and historical marginalization generates moral hazard — a situation in which actors can avoid responsibility for negative outcomes while benefiting from the system's dysfunction.

However, there are several ways in which to address these systemic vulnerabilities. For example, pragmatic collaboration would recognize the unique functionality of weak state structures while working practically with on-the-ground realities. Institutional reform must be adaptive, sensitive to context and include various actors, rather than replicating strong state governance.

New technologies such as molecular tagging and chemical alteration of oil products can be used to trace stolen hydrocarbons, thus making them difficult to use or to sell into illicit markets. These technologies would be clear disincentives to looting. Integrating anti-looting strategies with national security, peacebuilding and anti-drug efforts would be a comprehensive response that addresses the structural roots of conflict and crime.

Defining clear responsibilities for state and private-sector actors and setting up mechanisms to detect complicity or negligence would strengthen accountability frameworks. Helping local communities out of their cycles of reliance on, and fear of, organized armed gangs can be done by promoting employment, education and sustainability initiatives that will direct people away from illegal economies and toward legal jobs.

Addressing Colombia's hydrocarbon vulnerability requires more than technical fixes or stronger enforcement. It demands a shift in governance that directly confronts the historical and institutional roots of state weakness. Only by acknowledging and adapting to these structural conditions can Colombia reduce its dependence on illicit extractive economies and build a more secure, legitimate and inclusive future.

POLICY RECOMMENDATIONS

- **Collaborate Pragmatically:** Identify opportunities for collaboration. Acknowledge that a weak state is not merely a failed strong state but an exceptionally well-adapted weak state. It may be governed more effectively in specific contexts through co-operation and joint action. Thus, emphasizing pragmatic collaboration can often be more productive than attempting to reinforce institutions originally not designed for these contexts.
- **Develop Technologies:** Adopt tools such as molecular tagging and chemical alteration of oil and its derivatives to trace their origin and render them useless in illicit markets. These technologies will make their use and commercialization more difficult, reducing the incentive for hydrocarbon looting.
- **Integrate Security, Peace and Anti-Narcotics Policies:** Co-ordinate actions that address hydrocarbon looting, national security, peace and drug trafficking as interdependent policies. A unified strategy will allow for addressing the structural causes of the problem and dismantling associated illicit economies.
- **Clarify Accountability Frameworks:** Clearly define the responsibilities of state and private actors regarding hydrocarbon looting, establishing effective mechanisms to identify and sanction negligence or complicity. A strong focus on accountability will strengthen prevention and reduce impunity.
- **Develop Sustainable Community Programs:** Implement employment, education and sustainability programs in vulnerable communities to reduce their reliance on illicit activities and redirect incentives toward legal ones. This approach will reduce social tensions, generate lawful opportunities and strengthen regional stability.

INTRODUCTION

In Colombia, the hydrocarbon sector is undergoing a severe crisis that threatens both the national economy and internal security, making it a target for looting and other illicit activities. Between 1986 and 2015, more than 3,500 attacks on oil pipelines were recorded, resulting in the loss of 4.1 million barrels of oil (Sarmiento Eljadue 2020; Méndez 2020; Monroy Giraldo 2015). Estimates suggest that from 2019 to 2024, oil theft reached six million barrels, causing economic losses of millions of dollars for Ecopetrol¹ and other companies in the sector (Quiroga Rubio 2024, 2023a; El Tiempo 2024; El Espectador 2024; Escobar Moreno 2023; Revista Semana 2023a; Méndez 2020). This scenario not only highlights the economic impact but also illustrates the transformation of oil from a legally regulated resource to one that illegal actors quickly loot. In this context, the sector's structural vulnerability reveals itself clearly, raising critical questions about the institutional and social dynamics that perpetuate insecurity in a landscape marked by armed violence and state weakness.

¹ Ecopetrol is Colombia's largest oil company, responsible for over 60 per cent of the nation's hydrocarbon production (ACPG 2024). As a state-owned enterprise with mixed capital, it leads the country's exploration, production, refining and transportation of hydrocarbons. Through subsidiaries such as CENIT, the leading pipeline network is operated nationwide. Its strategic role in the national economy positions it as a central actor in Colombia's energy governance.

Historically considered non-lootable due to their complex infrastructure and strict logistical controls, in recent decades oil and other extractive resources have acquired lootable² characteristics in contexts of state weakness (Rettberg and Prieto 2018; Snyder 2006). Illegal practices such as installing clandestine valves in oil pipelines have lowered operational barriers, enabling non-state actors to access oil and introduce it into illicit markets. Although many scholars have studied the relationship between natural resources and conflict, relatively few have examined how non-lootable resources become lootable — particularly in Colombia — within environments characterized by institutional fragmentation and the delegation of core state functions, such as security and infrastructure protection.

OBJECTIVES AND SCOPE

Building on the above, the central question we pose in this article is: Why has Colombia's hydrocarbon sector become highly vulnerable to lootability and the criminal economy? We argue that this vulnerability is not coincidental but deeply rooted in state weakness and institutional fragmentation, which foster dynamics of moral hazard. In this context, diverse actors — from the public and private sectors to communities and illegal armed groups — respond to incentives encouraging outsourcing responsibilities and opportunistic behaviours. The lack of state regulation and control fuels this environment of insecurity, transforming oil into a lootable resource that feeds the criminal economy. Understanding these dynamics is essential to improving the hydrocarbon sector's governance and mitigating the economic and social consequences that deepen conflict in the affected regions.

THEORETICAL FRAMEWORK

This article explores the concept of moral hazard, which has been extensively studied in economic theory, to understand the dynamics underlying this vulnerability. This concept refers to situations in which an individual or institution engages in riskier or more irresponsible behaviour because they know they will not fully face the negative consequences of their decisions and actions (Arrow 1963; Holmström 1979; Mann 1984; Shavell 1979; Stiglitz 1983). This phenomenon occurs when there is an asymmetry between those making decisions and those bearing the costs, creating incentives to act opportunistically or negligently. Essentially, moral hazard arises when someone is shielded from the risks of their actions, undermining their motivation to act prudently.³

² Lebillon (2003) defines lootability by classifying resources based on their accessibility, mobility and control, explaining how these factors either facilitate or constrain their illegal exploitation. We expand this notion by demonstrating how oil, historically considered non-lootable due to its centralized infrastructure and logistical complexity, acquires characteristics of vulnerability through four phenomena: theft, defined as the illegal extraction of crude oil; appropriation, through territorial or logistical control by non-state actors; sabotage, involving deliberate damage to oil infrastructure; and boycott, consisting of the obstruction of hydrocarbon flows for political or economic purposes.

³ Insurance provides a classic example of moral hazard. A person with full coverage might be less careful in protecting their property, relying on insurance to cover the costs of an incident (Shavell 1979; Stiglitz 1983). Similarly, banks and corporations take excessive risks in the financial sector when they anticipate government bailouts, as occurred during the 2008 crisis (Krugman 2009; Mishkin 1999). These examples illustrate how protection from consequences fosters behaviours that harm others. Moral hazards also arise in labour relations and public contracts. Employees with job security may reduce their efforts if they believe they will not face the consequences (Bordogna 2008). Similarly, in publicly funded projects, inefficient decisions often emerge when losses are assumed to be absorbed by the state. In these contexts, the lack of incentives to minimize risks and act responsibly can significantly impact overall outcomes (Hilgert 2013). Systems that align interests by distributing responsibilities, incentives and transparency are needed to mitigate this phenomenon. For instance, insurance deductibles encourage caution, while strict financial regulations promote responsible decision-making and contribute to more stable systems.

We also ground our analysis in the phenomenon of state weakness, a central notion in recent debates about Latin America (Brinks, Levitsky and Murillo 2020; Mazzuca 2021; Rotberg 2004). This concept refers to the limited capacity of states to exercise effective control over their territory, ensure compliance with laws and provide essential public goods inclusively and equitably. The limited capacity of states to exercise effective control, ensure compliance with laws and provide essential public goods has led to challenges such as the emergence of non-state actors competing for power. Authors such as O'Donnell (1993), Mazzuca (2021) and Munck and Luna (2020) argue that this weakness is neither accidental nor temporary but rather structural, linked to the historical design of Latin American states. Unlike European states, whose formation was shaped by war dynamics, Latin American states emerged with economic and centralized control objectives, perpetuating social inequalities and territorial exclusion (Mazzuca 2021; Tilly 1992). From this perspective, these states are weak but functionally effective in maintaining unequal power structures, making them not poorly made strong but exceptionally well-made weak states. In this context, moral hazards abound. The challenge lies in developing governance mechanisms that adapt to this condition.

An important clarification is that moral hazard does not imply a moral judgment. Despite the term's name, it does not refer to the ethics or intentions of the actors involved but to the structural conditions that encourage certain behaviours. In this study, we strictly use moral hazard as an analytical tool to examine how institutional fragmentation, weak enforcement and asymmetrical accountability create environments where opportunistic or negligent actions become rational and expected. This perspective does not assume that some actors are inherently good or bad; instead, it highlights how governance systems shield specific individuals or institutions from the consequences of their decisions, allowing them to externalize costs and take disproportionate risks. While the term might appear to affirm the legitimacy of states or corporations as rightful resource holders, we aim to expose how uneven distributions of risk and responsibility affect all actors — public, private, formal and informal — often blurring the lines between legality and illegality, legitimacy and power.

METHODOLOGY

We adopt an interpretive, qualitative, methodological approach, grounding our analysis in the premise that actors construct and interpret political dynamics through the meanings and narratives they attribute to their contexts and actions to address the issues raised and the central question (Edelman 1985; Geertz 1973; Schwartz-Shea and Yanow 2012). We use qualitative analysis software to process and analyze semi-structured interviews with key elite actors, including government representatives, private-sector stakeholders and local community members. The interviews, conducted under strict ethical standards,⁴ provided detailed information about actors' incentives, conflicts and strategies. We also used triangulation to validate the findings by cross-referencing testimonies with secondary data, such as official reports, academic studies and media analyses.

⁴ Following the guidelines established by the Conjoint Faculties Research Ethics Board (CFREB) at the University of Calgary, this study adopted procedures designed to uphold the highest ethical standards. In particular, the identities of certain participants were protected through anonymity, responding to explicit requests due to security concerns. Furthermore, the study identifies one of its limitations as the restricted access to certain actors and organizations that declined to participate as interviewees. Risks to their safety influenced their decisions, as did the topic's sensitivity, industrial secrecy, legal confidentiality, ongoing investigations, the impact of the phenomenon under study or other implications.

This article is organized into four main sections. The first analyzes how the looting of hydrocarbons has consolidated a criminal economy, focusing on the strategic logic behind its emergence, its territorial dimensions and its sources of financing. The second examines the institutional and structural conditions that have enabled this phenomenon, particularly the fragmentation of state authority, the erosion of control and the complicity of key actors. The third explores the operational challenges companies and the state face in safeguarding pipelines, analyzing the limitations of current strategies, the delegation of responsibilities to third parties and the consequences of risk externalization. The fourth section addresses the role of communities in these dynamics, emphasizing how economic exclusion, environmental degradation and weak institutional engagement contribute to cycles of co-optation, dependency and ambivalence. Finally, the article concludes with practical and pragmatic policy recommendations.

1. OVERVIEW: STRENGTHENING THE CRIMINAL ECONOMY

The lack of adequate state control in areas influenced by the hydrocarbon industry has allowed armed groups and criminal organizations to exploit strategic resources. This absence of authority facilitates oil looting and a wide range of illegal activities. From its illegal extraction to its transformation into artisanal gasoline, stolen crude supports activities such as drug trafficking, illegal mining and smuggling. Various illegal groups have consolidated territorial control in key regions, using pipelines as strategic points and developing complex financing networks that include technical smuggling, illegal fuel production and clandestine hydrocarbon exports. This phenomenon perpetuates armed conflict and violence by strengthening criminal economies.

1.1. Origins, Purposes and Incentives

The relationship between the development of Colombia's hydrocarbon sector and the strengthening of the criminal economy is evident in the political and extortion-related objectives of the National Liberation Army (ELN).⁵ This group used the looting of oil infrastructure as both a tool of resistance and a source of financing.⁶ From its early days, the ELN exploited pipelines to delay oil transportation through "strategic attacks" (Velandia Jagua 2024, 1:11). During the construction of the Caño Limón-Coveñas pipeline, this organized armed group (OAG) kidnapped engineers from the German company Mannesmann, securing an unexpectedly high ransom⁷ and establishing a "permanent tax" to operate without interruptions (El Tiempo 1996a; Revista Semana 2015; Rodríguez Álvarez 2023).⁸ This negotiation enabled the ELN to "recover and relaunch itself as a nationwide insurgent movement ... In oil resources, the ELN found its resurgence, like a phoenix rising from the ashes ..." (Velandia Jagua 2024, 18:02).

⁵ It is no coincidence that the ELN emerged in Barrancabermeja, a region with a strong oil industry presence where social conflicts related to the sector led "the ELN's founders to specifically choose this region to establish their guerrilla group and make infiltrating the labour movement one of their strategic priorities" (Rettberg and Prieto 2018, 162).

⁶ Sarmiento Eljadue (2020, 28), in her report for the Fundación Ideas para la Paz (FIP), states that "illegal actors seek to control those who produce rather than controlling production itself, and various motivations (economic, sociopolitical, and military) drive their actions."

⁷ The ELN, which was going through a crisis in the 1970s that almost led to its dissolution, negotiated with Mannesmann through the German facilitator Werner Mauss. The negotiation went something like this: Mauss asked the ELN representatives: — What do you want? The ELN responded: — Pay us. — How much do you want? — Mauss asked. The ELN negotiator said something like: — Give me five million. Mauss replied: — I will give you \$5 million. The ELN had been asking for five million pesos. However, Mauss understood it as \$5 million (Velandia Jagua 2024, 10:11). Considering the official exchange rate in 1983 between pesos (COP) and US dollars, the ELN might have received nearly 80 times more than it initially expected. The exact figure for this negotiation varies across sources, ranging from \$2 million to \$16 million, but it is clear that Mannesmann paid generously and the ELN received much more than it had anticipated (El Tiempo 1996a; Revista Semana 2015; Rodríguez Álvarez 2023).

⁸ According to Velandia Jagua (2024, 15:07), this situation "was very convenient because Mannesmann built its pipeline within the scheduled time; the government prioritized and secured the pipeline's construction; Occidental extracted the oil and transported it through the pipeline; and the ELN charged revenue for allowing oil extraction. In this way, everyone achieved their goals."

Over time, the ELN understood the oil industry's strategic importance and adapted its tactics, incorporating looting and extortion into its political program as symbols of resistance and distrust toward multinational corporations. In the words of Nicolás Rodríguez Bautista, alias Gabino, the ELN's top commander at the time:

I prefer that the oil spill over our territory rather than have it taken by foreign companies in the unpatriotic way they are doing. We maintain the policy of attacking the pipeline if oil companies continue to be involved in the dirty war (Avellaneda Cusarúa 2004, 492).

During its first congress in 1986, the ELN reaffirmed its “political claim over natural resources,” driven by ideological reasons and the income it generated, solidifying its position in the internal armed conflict. This stance led some media outlets to label the group “Petroleum-Guerrilla” (*petro-guerrilla*) (Luna 2024, 10:03; Revista Semana 1988). During this period, the ELN attempted to position itself as a defender of natural resources, using attacks on oil infrastructure to pressure the government by disrupting the national economy and diverting troops to protect pipelines (Luna 2024, 45:31). This political and extortion-driven focus on the hydrocarbon sector not only strengthened the ELN but also established an illicit economy around oil, whose consequences persist to this day.

After consolidating itself as a key player in the looting and extortion of oil infrastructure, the ELN transitioned into a second phase of a criminal economy centred around hydrocarbons. Drug trafficking and the involvement of other armed groups, such as the Revolutionary Armed Forces of Colombia (FARC), defined this phase. It is no coincidence that the areas of hydrocarbon production and transportation also coincide with regions of high coca cultivation and activity by illegal groups, reflecting a relationship between these illicit activities and the location of oil infrastructure (Insuasti Mejía 2024, 11:52). In this context, following Texaco's departure from Putumayo in 1980, the FARC took advantage of the abandoned oil fields to extract crude oil, refine it and sell it as an input for coca processing (CNMH 2015, 140-141; Rettberg and Prieto 2018, 137). Stolen crude oil then became a key resource for producing *pategrillo* (cricket's legs),⁹ a crucial precursor in the production of coca base paste (Argüello 2016; Barrera Peña 2024, 17:42; Comunidad Andina de Naciones (CAN) 2013; Griffin 2022; Mejía and Rico 2010; Suárez 2020; Verdad Abierta 2016).

Ultimately, the Caño Limón-Coveñas and Trasantino pipelines, located in areas of high coca production and significant armed group presence, became strategic conflict points. The illicit valves these groups installed facilitated access to crude oil to sustain their illegal activities. This shift in the criminal economy transformed the role of hydrocarbons. From being an initial funding source for insurgent groups like the ELN, crude oil became a strategic asset in the illicit economy. These activities included drug trafficking, illegal mining and money laundering (Insuasti Mejía 2024, 13:22). The link between stolen crude oil and coca production cemented petroleum as a crucial resource for organized crime. The criminal economy became increasingly dependent on hydrocarbons, which amplified its influence on the Colombian armed conflict.

⁹ See section 1.3.2 below: Pategrillo and Cocaine Crops

1.2. Hegemony and Territorial Control

The ELN and the FARC have historically controlled territories in the areas surrounding Colombia's oil pipelines, positioning themselves in key regions for hydrocarbon transportation.¹⁰ In Arauca, the ELN dominated the Caño Limón-Coveñas pipeline, while the FARC consolidated its influence in Nariño and Putumayo, around the Trasandino pipeline (Luna 2024, 25:56). This geographic distribution shaped their tactics: the ELN and FARC looted the infrastructure, while paramilitary or self-defence groups, particularly in Magdalena Medio and La Costa, primarily resorted to extortion without damaging the facilities (Luna 2024, 25:56). In this context, the dominant group in each region became the primary beneficiary of oil exploitation, strengthening its control over local resources.

The consolidation of territorial control around the pipelines also fuelled the growth of these OAGs. For instance, the FARC grew from 800 combatants in 1980 to 16,000 by 2000, financed by drug trafficking revenues and the “imposition of taxes” in their areas of influence (Lloreda Mera 2024, 35:12). Similarly, the ELN, which had three fronts in 1983, expanded to 16 new fronts and 30 urban structures by 1986 (Velandia Jagua 2024, 18:02). Both the ELN and the FARC outsourced criminal operations, relying on common criminal groups to install illicit valves — a strategy that allowed them to maintain territorial control without taking direct risks (Insuasti Mejía 2024, 21:43). Taken together, these patterns of territorial expansion and the strategic outsourcing of criminal activities illustrate how illegal armed groups transformed their methods to consolidate control and fuel the criminal economy around hydrocarbons.

1.3 Illegal Sources of Financing

Economic motivations are key to understanding the OAGs' involvement in crude oil theft and other activities related to the hydrocarbon industry. The presence of these groups in departments like Arauca, Putumayo and Nariño — where crude theft and infrastructure damage are recurrent — is no coincidence. In these regions, stolen crude oil serves as one of the primary sources of financing, enabling these groups to sustain themselves and expand into strategic territories (Marín and Cajiao 2015; Sarmiento Eljadue 2020). As Lloreda Mera (2024, 35:12) concludes, the hydrocarbon industry “is practically tailor-made for those purposes.” Petroleum's strategic importance as an economic driver makes it a priority target for illegal armed actors, strengthening their structures, consolidating their control and expanding their influence (Rettberg and Prieto 2018, 161). This economic dependence, in turn, perpetuates the cycle of violence and criminality in the affected regions (Barrera Peña 2024, 0:26).

1.3.1 Technical Smuggling

Technical smuggling of gasoline in Colombia has become a significant source of financing for illegal armed groups, capitalizing on price differences in border regions. This type of smuggling arises from a government subsidy¹¹ that lowers gasoline prices in border areas, where the cost to the end consumer is significantly lower than in the country's interior (Lloreda Mera 2024, 5:47).

¹⁰ Sarmiento Eljadue (2020, 96) concluded that “there is a division and/or distribution of territory among the armed actors ... ELN actions were concentrated in the northeastern departments of Colombia against Caño Limón-Coveñas pipeline, while FARC operations focused on the southwest, targeting the Transandino pipeline.”

¹¹ The Colombian government introduced the gasoline subsidy in border regions through Law 191 of 1995 as a temporary measure to promote economic and social development in frontier departments. It sought to mitigate structural disadvantages by lowering transportation costs, addressing geographic isolation and countering unequal competition with neighbouring countries that offered cheaper fuel. The law required authorities to maintain the subsidy until the country developed a national pipeline network to ensure equitable fuel distribution. Nearly three decades later, policymakers upheld the subsidy due to its political sensitivity and sustained relevance in regions affected by poverty, informality and limited state presence.

This price disparity allows criminal networks to purchase subsidized fuel in these regions and resell it in areas with higher prices, generating substantial revenue (Loaiza 2019; Monterrosa Blanco 2018). This scheme provides financial benefits to armed groups and enables them to maintain a presence and exert influence in the areas where they operate, consolidating their economic and territorial power.

1.3.2 *Pategrillo* and Cocaine Crops

Pategrillo is a low-quality, artisanal fuel that shares chemical similarities with kerosene but is contaminated, impure and distinguished by a brownish-green colour resembling a cricket's legs. Producers typically refine it in rudimentary stills using crude oil obtained through illicit valves installed on pipelines. The process involves heating the crude to high temperatures, condensing the vapours and distilling them to extract this highly sought-after liquid (Argüello 2016; CAN 2013; Griffin 2022; Mejía and Rico 2010; Suárez 2020; Verdad Abierta 2016). Although considered a “dirty” fuel, *pategrillo* reaches a level of purity sufficient for widespread use, sale and distribution – most commonly in plastic containers known as *pimpinas* (Lloreda Mera 2024, 2:10). Its affordability and accessibility have turned it into a key commodity within the informal and illegal fuel economies in conflict-affected regions.

Due to its comparative and competitive advantages, *pategrillo* has become a significant and sustained source of financing for organized crime and armed groups in Colombia. The demand for this artisanal fuel has increased sharply, driven by both the substantial expansion of coca cultivation areas across the country and the rising prices of traditional fuels (Insuasti Mejía 2024, 38:56; UNODC 2024; Rincón and Garavito 2024). Armed actors take advantage of the growing illegal market and the state's absence by using *pategrillo* as a strong incentive to loot or enable the looting of crude oil.

At first glance, *pategrillo* might seem unrelated to cocaine production. However, producers rely on it as a crucial input in the initial stage of processing coca leaves to produce cocaine base paste (Loaiza 2019). Producers use *pategrillo* as a solvent to extract alkaloids (cocaine sulphate) from the plant. They prefer it over gasoline or other chemicals because of its high effectiveness, low cost, wide availability, high recycling rate and minimal scrutiny from authorities. After obtaining the base paste, producers refine it further in clandestine laboratories, converting it into cocaine hydrochloride with substances such as sulfuric acid, potassium permanganate and hydrochloric acid (Mejía and Rico 2010; Suárez 2020).

In addition to its role in cocaine production, *pategrillo* serves as an alternative fuel for cargo trucks, vessels used for drug transportation and heavy machinery in illegal mining operations (Argüello 2016; CAN 2013; Griffin 2022; Mejía and Rico 2010; Suárez 2020; Verdad Abierta 2016). *Pategrillo* has become an essential resource for the clandestine economies operating in Colombia's rural and border areas. The primary incentive for transporters and machinery operators is its low cost, which makes it more accessible than gasoline or diesel. Similarly, the clandestine *pategrillo* market thrives due to regulatory gaps, such as laws allowing the transport of up to 220 gallons of fuel without justification, facilitating its circulation in strategic regions (Insuasti Mejía 2024, 25:12). As a result, *pategrillo* not only finances illegal groups but also strengthens their territorial control, particularly in border areas, by meeting the growing demand in informal transportation and illegal mining sectors (Defensor de Derechos Humanos 2024, 2:10).

The economy of rural communities in Colombia, particularly in territories dominated by illicit crops, is profoundly shaped by the lack of legal economic alternatives. In many of these regions, coca cultivation has become an essential economic activity and a culturally significant practice. As a community leader (2024, 13:46) explains, “Within the cosmogony and worldview of

Indigenous peoples, coca is a sacred plant.” However, the absence of livelihood options has led people to turn this plant into a source of income — a “profanation” that alters its cultural and spiritual purpose. This situation reflects the dilemma these communities face, because they lack sustainable alternatives and view coca as an economic solution at the expense of their principles.

The normalization of this illicit economy stems from insufficient state intervention and the absence of alternative development initiatives. Barrera Peña (2024, 2:01) explains that people in these areas “do not see any other way to survive.” Transforming coca into alkaloids depends on hydrocarbon inputs, increasing oil looting from pipelines. This practice not only supports cocaine production but also intensifies environmental and social risks in the region. Community leaders (2024, 0:21) explain, “Our livelihood has always relied on illicit coca leaf crops, and oil looting has become essential to sustain the narcotics economy.”

Cocaine is far more profitable than any other Colombian crop and could even surpass oil as the country’s leading export product (Bloomberg 2023; Sánchez 2024). Human rights advocates note that, after nearly 30 years of substitution programs, farmers still lack the social and economic support needed to transition to legal crops. Coca remains the most lucrative option, mainly when farmers process it themselves, which significantly boosts their income (Defensor de Derechos Humanos 2024, 20:16). Without structural improvements in living conditions and more substantial state intervention, these communities will continue to rely on illicit crops, suffering from ongoing social and environmental harm that reinforces cycles of marginalization and exploitation.

1.3.3 Drug Trafficking

Drug trafficking has evolved into one of the primary sources of financing for OAGs in Colombia. Initially, the ELN remained uninvolved in the coca economy. However, the growing profitability of drug trafficking, combined with a decline in revenues from extorting oil companies, led the group to integrate into this illegal activity, adopting practices like those of the FARC (Velandia Jagua 2024, 1:08:57). This integration is evident in the systematic collection of “taxes” at various stages of the drug trafficking chain: from charging fees to bring in chemical precursors and set up laboratories, to imposing tariffs for using airstrips and trafficking routes in areas under their control. As a result, every step in the production and transportation of cocaine generates substantial income for the ELN and other groups (Luna 2024, 1:09:44).

Beyond drug trafficking revenues, looting crude oil has become a strategic resource, as the artisanal fuel distilled from it is used in coca leaf processing and to supply transportation along distribution routes. River corridors, for instance, serve to transport large quantities of fuel in boats equipped with plastic containers, supplying inputs to cocaine processing labs in jungle areas (Insuasti Mejía 2024, 21:01). The correlation between the increase in hectares of illicit crops and the rise in crude oil looting underscores the interdependence of these illegal economies. This interconnected system has cemented drug trafficking as a vital economic resource for armed groups, whose financial structures depend on both cocaine production and the exploitation of looted crude oil.

1.3.4 International Smuggling

According to Barrera Peña (2024, 27:21), “At first, we believed that everything happening with Caño Limón-Coveñas was for *pategrillo* production, but the numbers did not add up ...” which led to uncovering the scope of international hydrocarbon smuggling as a crucial funding source for armed groups in Colombia. These organizations operate complex networks of illicit trade and money laundering, extracting crude oil from Colombian pipelines and mixing it with smuggled Venezuelan oil (El Tiempo 2023a). Taking advantage of Venezuela’s trade restrictions, they

transport the crude on tankers that conduct ship-to-ship transfers in international waters. Upon entering Colombian territory, they chemically alter the crude and replace seals to conceal its origin, allowing it to be included in Ecopetrol's legal exports and generating net profits of up to US\$17 per barrel (Insuasti Mejía 2024, 32:05).

For more than two decades, groups like the ELN have exploited this scheme, establishing front companies to facilitate money laundering and conceal the illicit origin of crude oil. Insuasti Mejía (2024, 27:33) estimates that “approximately 67% of the looted crude is destined for international smuggling operations, while 33% supplies domestic activities such as coca leaf processing.” Corruption within port authorities and collaboration with business conglomerates have enabled these groups to operate under a façade of legality, blending legal and illegal economies into a sophisticated structure. This smuggling diversifies the income sources of armed groups. It strengthens their economic capacity and extends their influence beyond Colombia's borders, consolidating hydrocarbon smuggling as one of the most lucrative activities in their criminal economy (Luna 2024, 1:10:37).

In summary, strengthening the criminal economy surrounding Colombia's hydrocarbon industry directly results from state weakness and dynamics where illegal actors maximize profits by exploiting a strategic resource. The lack of effective control has enabled activities such as technical smuggling, the production of illicit fuels like *pategrillo* and its use in drug trafficking to establish oil as a lootable asset within a fragmented governance context. This environment perpetuates armed conflict and amplifies violence in strategic regions, where criminal networks have incorporated looted crude as a cornerstone of their illicit economy. Ideally, breaking this cycle requires strengthening the state's capacity to assert territorial control and implement comprehensive strategies that discourage these practices by targeting the economic structures that sustain organized crime and its links to the sector. Short of that, understanding that the Colombian state is weak by design, a more pragmatic approach of collaborating with a wide range of different actors to break cycles of conflict and violence can also yield results.¹²

2. FAILURES, WEAKNESS AND VULNERABILITY OF THE COLOMBIAN STATE

The Colombian state's inability to effectively control and protect hydrocarbon infrastructure has created a vacuum that facilitates the actions of illegal actors. In areas with minimal state presence, OAGs and criminal networks find a permissive environment in which to operate without restrictions and with impunity, taking advantage of the limited response from authorities (Bejarano and Segura Bonnett 1996; Di John 2010; Pécaut 2015; Rettberg and Prieto 2018). This context increases the vulnerability of critical infrastructure and directly affects communities and companies, which must contend with the violence generated by looting. This section examines how the lack of state presence and failures in security management have turned these regions into hubs of illicit activity, directly impacting the security of extractive sector operations and the country's economic stability.

2.1 Weakness in Control, State Presence and Security Assurance

The Colombian state's limited capacity to ensure security has been a critical factor in the hydrocarbon sector's vulnerability. Neglected regions have become hotspots for illicit activity, driven by a pervasive sense of impunity. This lack of adequate state control has enabled illegal

¹² The city of Medellín has taken a pragmatic approach that has yielded some results in lowering previously very high levels of violence (Blattman, Duncan, Lessing and Tobón 2023). For an overview of the challenge of criminality for governance in Latin America, see Feldmann and Luna (2022).

actors, including OAGs and criminal networks, to exploit weak enforcement mechanisms to loot infrastructure with little fear of consequences (Rettberg and Prieto 2018). The resulting insecurity undermines the country's energy and economic stability, fuels conflict and erodes the state's legitimacy in these regions.

This state weakness has facilitated the emergence and simultaneous consolidation of multiple illegal actors in the country's most vulnerable regions, which coincide with strategic areas for hydrocarbon exploration and exploitation. This institutional fragility has allowed OAGs, such as the now-defunct FARC, the current FARC dissidents, the ELN and other common criminal and organized crime groups, to operate unchecked, taking advantage of the power vacuum to expand their activities and engage in the looting of oil resources (Rettberg and Prieto 2018, 137).¹³ As Barrera Peña (2024, 5:12) points out, "There is no effective state control or presence ... The state has not effectively addressed this phenomenon. We must target the leaders who generate this criminal activity ..."

In this context, public security forces' permanent presence and territorial control are essential for the extractive industry's activities. In regions where such presence is nearly non-existent, illegal actors operate without restrictions, exert territorial control and obstruct any attempts at state intervention. The geographic characteristics of approximately 9,000 kilometres of oil, multiproduct and propane pipelines primarily explain this phenomenon (Sarmiento Eljadue 2020, 30). As Lloreda Mera (2024, 10:02) states, "This is facilitated by the environment, as we are talking ... about corridors where there is no presence of public security forces ... and surveillance is not easy. Therefore, there are no deterrent factors." While public security forces respond effectively to high-profile or high-impact incidents,¹⁴ their lack of consistent presence limits their capacity for control.¹⁵

In the absence of public security as a realistic option, the Colombian government adopted private financing of state security as an alternative. Since the mid-1990s, the Colombian government has regulated the relationship between companies and illegal actors, warning that payments for kidnappings and extortion fuelled violence and reinforced the armed conflict (Velandia Jagua 2024). Companies were encouraged to support legitimate authorities through agreements with state security entities. These agreements enabled the establishment of public security bases in strategic areas near oil infrastructure. For instance, the British Petroleum Company financed a military base in Casanare, covering food and amenities for soldiers assigned to security duties (Velandia Jagua 2024, 26:26). Similarly, in the country's south, the presence of public security forces responded to the oil industry's demands for security and public order (CNMH 2015, 278).

¹³ According to information gathered by FIP, between 1986 and 2015, the groups attributed with most actions against the hydrocarbon industry's infrastructure were the FARC and the ELN, respectively. It is worth noting that "throughout the 90s, the ELN was responsible for more than 70% of the actions, while in the 2000s, the FARC accounted for more than 50% nationwide" (Sarmiento Eljadue 2020, 35).

¹⁴ Lloreda Mera considers these situations a cultural factor in that only large-scale thefts of crude or refined oil will attract attention and prompt action from public security forces. Reflecting on this issue, Lloreda Mera (2024, 45:24) compares it to another context, such as crime in Japan, stating: "Crime is low there largely because criminal organizations ensure it stays low, and there seems to be a tacit agreement with the police, which says that as long as homicide rates remain low, we do not touch them. Here, it seems everyone can coexist." Returning to the Colombian context, a similar phenomenon occurs in Medellín, where, in the absence of effective state control, gangs govern certain areas, resolve disputes and provide security to locals (Blattman, Duncan, Lessing and Tobón 2024).

¹⁵ The challenges of combating illegal valve installations are evident in operations such as the one described in an interview with Insuasti Mejía (2024, 42:47): For example, dismantling a single illegal valve in Catatumbo, Norte de Santander, required the deployment of over 600 soldiers and police officers for more than a month. However, upon completing the task and conducting monitoring, "we see not one valve again, but five more."

However, this type of financing sparked debates in the Colombian Congress and high courts¹⁶ regarding the appropriateness of oil companies funding public security. Criticism focused on the potential creation of enclaves¹⁷ financed with national resources, delegating the responsibility for security to private entities, and on the armed forces' obligation to be held financially accountable for damages to oil infrastructure (El Tiempo 1995, 1996b). The discussion revolved around the limits and risks of privatizing public security. In response, some companies resorted to controversial practices, such as hiring security services from extralegal organizations (Medina Gallego 2005). As Velandia Jagua (2024, 29:21) concludes, “some multinationals ended up managing security in an extralegal manner ...” Despite these controversies, agreements between companies and the state remain in place due to the state's limited capacity to ensure security in strategic regions and the ongoing need to protect oil infrastructure — effectively normalizing shared governance arrangements where private actors play a central role in providing public security (Rettberg and Prieto 2018).

2.2 Adverse Policies and Institutions for the Hydrocarbon Industry

Adverse public policies targeting the hydrocarbon industry, combined with a regulatory framework that is difficult to enforce, have created a favourable environment for criminal economies in Colombia to grow through the looting of this sector's infrastructure. This context represents a scenario where illegal actors find incentives to exploit the system's weaknesses, failures and vulnerabilities without facing direct consequences. The lack of effective control over activities related to hydrocarbon extraction and distribution has externalized the costs and risks to the state and society, which now bear the consequences of the inability to exercise sovereignty and control in these areas of oil and gas activity.

Implementing peace policies has significantly contributed to the vulnerability of extractive sector infrastructure in recent years, creating a clear example of a moral hazard. While aimed at fostering stability, these policies can inadvertently encourage risky behaviours or expose critical infrastructure to exploitation by actors who take advantage of weakened security or governance gaps. These policies have reduced the role of public security forces, weakening their capacity to deter, prevent and counter illegal activities, leaving infrastructure more exposed to looting. Following the peace process with the FARC, according to Luna (2024, 21:15): “Public security forces reduced their intensity and operational momentum, losing many of the capabilities they had previously achieved. Today, this results in critical shortcomings.” Furthermore, the current “total peace” policy and ceasefires with groups such as the ELN have created a scenario in which public security forces are unable to counter illicit activities, such as crude oil theft, for fear of violating the ceasefire. However, as Velandia Jagua (2024,1:20:25; Cifuentes Quintero 2024) warns, in the event of any ceasefire breakdown, “the bombings will return because that is how the war has been waged.”

In addition, the Colombian government's energy transition policy — adopted by the current administration of President Gustavo Petro — aimed at gradually reducing dependence on hydrocarbons through a ban on new explorations, has also created moral hazard conditions in the oil industry (ACPG 2024; Olawuyi, González, Mostert, Montoya and Banet 2024; Schwab and Combariza Diaz 2023). While this policy promotes the use of cleaner energy sources, it has led

¹⁶ On this matter, the Constitutional Court issued a ruling in Judgment T-651 of 1996, stating that this type of collaborative agreement between private actors (oil and/or mining companies) and state institutions constitutes a contractual arrangement that “addresses special circumstances to promote security and tranquillity, particularly in cases requiring the surveillance of legal entities engaged in activities of public utility.”

¹⁷ Scholars understand these as “economic exploitation zones linked to the global market with a low level of integration into the local economy” (Rettberg and Prieto 2018, 145).

operating companies to adopt a cautious stance regarding new investments in infrastructure protection. According to Lloreda Mera (2024, 1:06:00), “It makes sense to invest in making pipelines less vulnerable, but under the current policy, convincing operating companies to allocate resources will not interest them, as they will not see a return.” This has left the industry in what Lloreda Mera calls “observation-survival mode,” where companies avoid taking risks while assessing the energy policy’s implications. Moreover, without clear tactical agreements, each company acts according to its risk aversion level, contributing to a paralysis in strategic decision-making necessary to improve infrastructure security in the short term (Lloreda Mera 2024, 1:15:18).

From a regulatory perspective, the challenges affecting fuel distribution in Colombia stem not only from gaps in the legal framework — such as those embedded in Decree 1073 of 2005 — but also from persistent limitations in its implementation. These weaknesses have facilitated the proliferation of illegal practices, particularly in border regions and remote areas (Martínez, Marulanda and Barreto 2019). One major issue is the absence of effective monitoring and enforcement mechanisms. For instance, according to a human rights advocate (2024, 29:52), “in Putumayo, tanker trucks arrive carrying thousands of gallons of gasoline, which are not destined for gas stations but instead, operators unload them at coca processing laboratories.” In border areas, the unusual volume of fuel and the proliferation of gas stations “should trigger all alarms” (Lloreda Mera 2024, 19:45). On one hand, it is legal for an individual to transport up to 220 gallons of gasoline, but “public security forces lack the technical tools to verify the type of fuel and can barely check the quantity” (Insuasti Mejía 2024, 25:16). On the other hand, the regulatory framework also enables permissive entry conditions for fuel commercialization. As Insuasti Mejía (2024, 1:03:10) notes, “opening a gas station is very easy ... the requirements are minimal — you just need the money for the infrastructure.” Together, these regulatory and operational deficiencies create a permissive environment for fuel diversion and its integration into illicit economies.

2.3 Complicity and Corruption

Complicity and corruption have enabled and incentivized the persistence of looting the hydrocarbon sector’s infrastructure in Colombia. These dynamics have undermined efforts to control criminal activities related to hydrocarbons, fostering an environment in which public officials and former sector employees find incentives to collaborate with criminal organizations in exchange for individual economic benefits. The lack of immediate and practical consequences for those involved in these acts creates a perception of impunity, further entrenching corrupt behaviour. In this context, public officials, law enforcement agents and former employees of oil companies — actors who are supposed to ensure the sector’s security and operational stability — instead facilitate illegal activities, externalizing the costs of their actions onto the state and society.

Public officials who engage in illegal activities related to the hydrocarbon sector have played a decisive role in facilitating the looting of the country’s energy infrastructure. As Rettberg and Prieto (2018) conclude, the exploitation and distribution of “black gold” have inherently included, among other factors, a significant propensity for corruption. The lack of adequate state presence in certain regions has allowed corruption to infiltrate institutions otherwise responsible for ensuring security and control. As a result, “police officers, military personnel, and local authorities have been arrested in operations led by the Office of the Attorney General,” highlighting the extent of the issue (Barrera Peña 2024, 6:37). This corruption undermines the state’s ability to exercise sovereignty and strengthens criminal networks by facilitating their operations and allowing them to act with greater impunity. Complicity also affects key entities such as the National Directorate of Taxes and Customs (DIAN), where “evidence shows complicity in granting nationalization to smuggled hydrocarbons,” thereby enabling the illegal importation of fuels (Insuasti Mejía 2024, 20:26).

Moreover, former employees and contractors from companies operating in the hydrocarbon sector — including public entities like Ecopetrol and private firms — have played a key role in looting infrastructure, optimizing illicit operations and enhancing the efficiency of criminal networks (El Tiempo 2023b). However, current evidence does not yet allow a clear distinction between behaviour patterns across different types of companies. The technical sophistication with which these activities are carried out, such as installing valves on high-pressure pipelines, suggests that many of those responsible possess advanced technical knowledge acquired through their experience in the industry. According to Insuasti Mejía (2024, 1:19:40), “We have found evidence that former employees have supported these operations, which has reduced the frequency of accidents, injuries, and even fatalities during the illicit installations.” Barrera Peña (2024, 20:23) also highlights a case in Teorama, Norte de Santander, where “Engineers who at the time worked for a Venezuelan company crafted a valve that operated continuously for 12 years ... and did so impeccably.” This situation is not new; employees managing fuel transportation schedules participated in sophisticated theft networks as far back as the 1990s.

In conclusion, Colombia's hydrocarbon sector is highly vulnerable to looting and criminal activity. This vulnerability stems from the interaction between state weakness and dynamics that incentivize opportunistic behaviour. The state's limited capacity to ensure effective control and security in strategic regions has created an environment where public and private actors make risky decisions without fully facing the consequences. Institutional fragmentation — evidenced by overlapping mandates, weak inter-agency co-ordination and the outsourcing of key state functions — combined with the lack of constant oversight, facilitates the actions of criminal networks and corrupt practices that exploit power vacuums to take advantage of infrastructure. At the same time, public policies such as ceasefires and the energy transition have weakened the state's preventive capacities, leaving the sector more exposed. These moral hazard conditions create incentives to transform oil into a lootable resource, offering high rewards for illegal actors and minimal perceived costs, perpetuating a cycle of insecurity and fuelling the criminal economy to the detriment of national stability.

3. SECURITY AND INFRASTRUCTURE PROTECTION

The protection of hydrocarbon infrastructure in Colombia faces significant challenges stemming from the fragmented responsibilities for ensuring the protection and security of hydrocarbon infrastructure between the state and private companies, from widespread looting to inadequate risk management and security strategies. In some cases, third parties have assumed this responsibility despite lacking the incentives or capacity to effectively safeguard the infrastructure. Transport companies and contractors often treat losses as operational costs, limiting their response to merely reporting damages rather than adopting proactive measures. Similarly, oil companies have deployed technologies that fail to prevent large-scale looting. Compounding the issue, certain economic actors profit from recurring damages, as repairs create business opportunities for suppliers. This section explores how outsourcing responsibilities, risk calculations and partial solutions have perpetuated a cycle of vulnerability, undermining both the operational and economic security of hydrocarbon infrastructure.

3.1 Operation Without Guarantees

Since it was built, Colombia's hydrocarbon transportation infrastructure has been subject to continuous damage due to looting. This damage has not only caused physical harm to the infrastructure but also meant that “the crude oil or refined products entering the pipeline simply do not exit on the other side in the same volume” (Lloreda Mera 2024, 1:01:50). The FIP (Sarmiento Eljadue 2020, 34) report highlights that 2001 and 2013, years marked by the

intensification of the armed conflict, saw the highest number of incidents, averaging nearly one attack per day. Analysts divide the trend of hydrocarbon looting into three periods: a) from 1986 to 1999, when the focus was on crude oil in the Caño Limón-Coveñas and Trans-Andean pipelines; b) from 2000 to 2009, when the phenomenon shifted to refined products, primarily in the La Costa and Magdalena Medio regions; and c) from 2010 onward, when the focus returned to crude oil (Insuasti Mejía 2024, 0:25).

The lack of security guarantees and operational instability have forced Colombia's hydrocarbon sector companies to adopt extraordinary measures, such as suspending crude oil and refined product transportation infrastructure (De la Rosa 2020; El Tiempo 2017, 2016). Constant threats of looting increase operational costs and limit the development of new operations. In response, companies have shut down operations while awaiting the arrival of repair crews or negotiation teams. In critical cases, “due to the lack of guarantees, there is no transportation through the pipeline, forcing them to seek alternative methods and routes, such as the multimodal system with tanker trucks or river transport along the Magdalena River” (Insuasti Mejía (2024, 21:00)).¹⁸ For instance, the Trans-Andean pipeline has been rendered unusable several times due to accumulated losses, requiring the use of export routes through Ecuador. Similarly, the Caño Limón-Coveñas pipeline has faced periodic interruptions and operational modifications, such as flow reversals to other pipelines, due to “terrorist attacks and the significant seizure of control that have compromised its viability” (Insuasti Mejía 2024, 14:27).

3.2 Third Parties With or Without Interest

From a historical perspective, certain companies have favoured the continuity of attacks on Colombia's hydrocarbon infrastructure, particularly in the case of the Caño Limón-Coveñas pipeline. This strategic route, built by the Mannesmann company, was marked by substantial payments to the ELN to avoid interruptions during its construction, which was completed in 1986 (Velandia Jagua 2024, 21:18). Subsequently, other companies took over the pipeline's maintenance, establishing informal agreements with armed groups to operate without disruptions. These companies, specializing in pipeline repair and construction, benefited economically from the recurring attacks, as “it was very convenient for there to be many bombings in order to have more work” (Velandia Jagua 2024, 22:30). This model created a cycle of destruction and repair, driven by economic incentives that encouraged armed groups to escalate the damage (Marín and Cajiao 2015; El Nuevo Herald 2015).

More recently, the structure of responsibilities in hydrocarbon transportation has diminished incentives for transport companies, such as CENIT (a subsidiary of Ecopetrol dedicated to hydrocarbon transport and logistics), to face challenges to implement adequate security measures. Currently, in the event of terrorist acts, the responsibility for transportation lies with the crude oil owner, not the transporter (Bermejo Galán, Lamadrid González and Galán Escalante 2017; El Nuevo Herald 2015). The lack of accountability results in a gap where transport companies limit their response to reporting losses, explaining that “100 units entered, but only 95 exited,” while attributing the discrepancy to “force majeure situations” (Lloreda Mera 2024, 10:02). According to Lloreda Mera (2024, 1:06:20), this disconnection fosters a lack of interest in the lost crude, removing incentives to improve surveillance or invest in security measures. This context increases the sector's vulnerability, encouraging looting due to the perception of low resistance.

¹⁸ While pipelines have risks, alternative transportation methods — such as tanker trucks or fluvial routes — are generally considered more likely to pose environmental risks. These options increase the probability of spills, accidents and long-term ecological damage, particularly in remote or environmentally sensitive areas.

3.3 Insufficient Solutions and Technology Strategies

The construction of deeply buried pipelines is a potential solution to reduce the vulnerability of Colombia's hydrocarbon infrastructure. Although this method entails higher costs and complexities due to the rugged geography, it could offer better protection than surface pipelines. One example is the Ocesa pipeline, whose depth has significantly limited attacks, except for an incident in Machuca in 1998 (Luna 2024, 15:19). However, this technique is not foolproof, as illicit valves are often installed through deep excavations, making detection more challenging (Insuasti Mejía 2024, 26:30). Additionally, landslides in areas with unstable soil present an added risk (Meléndez Pertuz, González Coneo and Comas González 2016). Therefore, adopting this strategy depends on a cost-benefit analysis: "If the security measures are more expensive than the value of the stolen crude, companies decide to accept the loss" (Lloreda Mera 2024, 1:06:20).¹⁹

An alternative strategy to mitigate crude oil theft in pipelines is to avoid constructing these infrastructures near settlements. The proximity of communities facilitates access to the crude, enabling residents to install illegal connections for clandestine extraction. A representative case is the Trans-Andean pipeline, where some communities settled directly along its route. As Barrera Peña (2024, 8:03) recounts, just one kilometre from the pipeline, "residents had already connected hoses directly to the pipeline, and in certain areas, they built houses on top of it. The pipeline is four- or five-meters underground, and they have direct connections to extract crude and refine it in their artisanal facilities." This example suggests that placing pipelines in areas far from settlements could significantly reduce the risk of illegal connections by limiting physical accessibility to the infrastructure.

Leak detection in hydrocarbon transportation infrastructure is crucial for identifying crude oil or refined product losses caused by attacks, structural failures or illicit connections. Companies use advanced monitoring systems that analyze pipeline pressure, allowing them to locate significant leaks in real-time (Revista Semana 2012). However, according to Moreno Mendieta (2019), "the pipeline system is outdated and does not have real-time monitoring in most of its sections." Furthermore, while these systems effectively detect major disruptions, they are not usually sensitive enough to identify small, discreetly installed illicit valves. Monitoring is more effective in detecting multiple illegal connections where pressure variations are more evident (Lloreda Mera 2024, 55:55). Therefore, while pressure monitoring is a valuable tool, it faces significant technological limitations in detecting small illicit connections.

Nowadays, various technological projects aim to enhance the security of hydrocarbon transportation and mitigate losses resulting from infrastructure damage (El Espectador 2015). According to Insuasti Mejía (2024, 1:04:58), one notable advancement is the development of a crude oil marker that tracks the flow of hydrocarbons in pipelines, allowing for the identification of leaks, theft or illicit connections. Companies now use drones to monitor the infrastructure, allowing them to detect damage or unauthorized manipulations early. Another innovative project involves the creation of a molecule that turns off the physicochemical properties of hydrocarbons, making them unusable for cocaine processing. Although these technologies represent significant advancements, they face the challenge of cost-benefit analysis, as companies and states may be reluctant to invest in high-risk contexts or those with uncertain returns.

¹⁹ This rationale illustrates how moral hazard operates in practice. Companies weigh the financial and reputational costs of investing in infrastructure protection. When they consider these costs higher than the potential losses — or believe others will absorb the consequences — they often choose inaction. In doing so, they reinforce a risk environment shaped by weak enforcement and fragmented responsibility, further undermining preventive investment incentives.

For these reasons, developing technological solutions that restore oil and its derivatives to their non-lootable status in the short term is essential. As the only actor with clear incentives and responsibilities, the state must lead this effort, as uncertainty discourages private investment. International experiences, such as molecular tagging in Uganda and the United Kingdom, have proven effective in tracking fuel and making its illegal use more difficult (Moreno Mendieta 2019). Similarly, prioritizing technologies that render oil unusable for coca leaf processing would eliminate incentives for its theft. These measures integrated and interdependent with national security policies, peace initiatives, anti-drug efforts and inclusive development, could protect critical infrastructure and reduce opportunities for criminal economies.

3.4 Intermediate Solutions

One of Colombia's most effective strategies to reduce hydrocarbon theft has been targeting the demand for stolen crude oil and dismantling the logistics supporting its commercialization (Insuasti Mejía 2024). Instead of concentrating solely on the operators of illicit valves, this strategy aims to cut off the sales flow, thereby limiting the market available for illegally obtained crude. In Catatumbo, for instance, there was a period when “the valve operators (*valvuleros*) had no one to sell the crude to, illustrating how a lack of demand can stifle illicit activity and reduce the incentives to install illegal valves” (Insuasti Mejía 2024, 1:06:38). Although challenging to implement and monitor, this strategy represents an intermediate solution with a preventive approach. Making the black market for hydrocarbons less profitable discourages theft and weakens criminal networks at their economic core.

An intermediate solution to protecting hydrocarbon infrastructure in Colombia has been creating a specialized public security force supported by agreements between companies and the state. Since the late 1990s, the army has implemented an operational adjustment through energy and road battalions designed to protect pipelines. This strategy enhanced surveillance and response to critical incidents, such as bombings, enabling the rapid deployment of specialized units that ensured security and facilitated access for operators and prosecutors to affected sites (Luna 2024, 15:19). In the early 2000s, inter-institutional agreements were established, such as the one led by Occidental on the Caño Limón-Coveñas pipeline. The agreement involved public security forces and a delegated prosecutor, leading to key arrests and providing better insights into criminal networks (Luna 2024, 18:46). Although these agreements have decreased, they demonstrated the effectiveness of a specialized public security force with dedicated resources to mitigate risks to critical infrastructure.

Strengthening formal institutions to address hydrocarbon theft in Colombia includes modifying criminal statutes with specific and severe penalties. In 2006, the Colombian Congress enacted Law 1028, which defines the theft of hydrocarbons as a crime with unique characteristics, encompassing practices such as illegally appropriating crude oil and fuels. This law increased penalties and declared these crimes non-bailable, sending a strong message of legal severity against those who harm oil and gas infrastructure (Insuasti Mejía 2024, 5:04). According to Insuasti Mejía (2024, 7:58), the initial enforcement of this law reduced daily hydrocarbon losses from 7,200 barrels to just 90, demonstrating its impact on deterrence and control. Thus, modifying criminal statutes represents a key step in equipping the legal system with robust tools to protect critical infrastructure and discourage illicit activities.

3.5 Risk Calculations

In Colombia's hydrocarbon sector, risk calculation²⁰ has resulted in a permissive attitude toward losses from looting. Barrera Peña (2024, 11:33) discusses that companies identify losses through pressure drops but do not act: "... I do not want to judge whether it is abandonment by their initiative." Both governments and companies have adopted an approach in which they tolerate certain levels of damage as an inherent part of the activity. Lloreda Mera (2024, 23:30) points out that "it seems crude oil theft, regardless of its level of sophistication, is one of those contingencies the industry must live with ... a problem that has become 'part of the scenery' and goes unnoticed by many authorities, companies, and citizens." Thus, companies view crude oil theft as an additional operational cost, like other business challenges.

The hydrocarbon sector calculates risk by setting thresholds of acceptable losses, and companies respond only when those are exceeded. For instance, "if there are 40 pipeline bombings a year, we are doing fine ... and as long as the daily flow remains around 800,000 barrels, even with ruptures and spills, the situation is considered manageable" (Velandia Jagua 2024, 25:10). This tolerance reflects the assumption that a certain percentage of losses is inevitable. However, analysts like Lloreda Mera (2024, 10:02) consider this approach "a mistake," as it takes for granted that crude oil is lost without questioning how, where or how companies can act to prevent it. Furthermore, this perception has led companies to prioritize other risks, such as social conflict, due to its more significant operational impact. At the same time, crude oil theft is treated as a minor contingency, attributed to a few "manageable little valves (*valvulitas*)."

The limited state presence influences risk calculation in the hydrocarbon sector in remote areas where many operations occur. In these regions, the state does not assume responsibility, a situation explicitly outlined in the contracts that the National Hydrocarbons Agency (ANH) signs with companies. As a result, the entire burden and inherent risks fall on the companies (Lloreda Mera 2024, 23:30). This model reinforces a structural coexistence with losses, undermines the industry's response capacity and normalizes a problem that demands a strategic approach. Instead of viewing losses and risks associated with looting as an inevitable part of operations, they require a sustained approach beyond reactive management.

To conclude, the Colombian hydrocarbon sector's vulnerability to looting is closely tied to dynamics in which state and private actors externalize responsibilities, avoiding full accountability for their actions or inactions. This fragmentation in responsibility management, combined with the perception that losses are tolerable as operational costs, creates an environment conducive to the proliferation of criminal networks. Although technological measures have been implemented, their effectiveness remains limited due to a lack of clear incentives to prevent looting comprehensively. In this context, the disconnect among key actors perpetuates a cycle of insecurity, reinforcing the perception of oil as a lootable resource. Overcoming this challenge requires co-ordinated strategies that align incentives with adequate infrastructure protection and the sector's stability.

²⁰ The extractive industry calculates risk by closely linking it to the concept of risk awareness, which suggests that "companies investing in countries where governments lack the capacity or willingness to fulfill their responsibilities prepare themselves to face various risks and ethical dilemmas" (Rettberg and Prieto 2018, 146). In this context, companies accept certain losses as inevitable if they remain within manageable thresholds. However, this practice normalizes risks such as crude oil theft or pipeline bombings while focusing on areas with a more significant impact, such as social conflicts that directly threaten operational continuity. This prioritization exposes an ethical dilemma: by accepting certain losses as acceptable, companies risk neglecting preventive solutions that could mitigate the overall impact of these contingencies.

4. RELATIONSHIP WITH LOCAL COMMUNITIES

In the regions of Colombia where the extractive industry overlaps with the presence of OAGs, local communities face significant vulnerability to the interests of illegal actors, the state and oil companies. The exclusion of these communities from the economic benefits and decision-making processes regarding natural resource exploitation has enabled armed and criminal groups to portray themselves as defenders of community rights and guardians of resources (Luna 2024). Simultaneously, extractive companies are perceived as entities with limited social commitment, prioritizing economic objectives over environmental and social impacts in the areas where they operate. This scenario fosters an environment of exclusion and dependence, incentivizing communities to collaborate with illegal actors to gain economic benefits or protection.

4.1 Influence, Manipulation and Co-optation

OAGs have exploited the weak state presence in oil-rich regions to position themselves as defenders of the rights and resources of local communities. For instance, the ELN banned oil exploration in Indigenous territories, gaining the support of communities such as the U'wa, who interpreted this action as a defence of their sovereignty and worldview (Velandia Jagua 2024, 53:31). Similarly, the ELN has conditioned companies to hire local labour and reinvest in the region, creating what Velandia Jagua (2024, 21:18) describes as an “almost symbiotic relationship.” In this dynamic, the armed group carries out lootings that damage infrastructure. At the same time, the companies hire the affected communities to carry out repairs (Velandia Jagua 2024, 21:18). These interventions highlight the tensions among armed actors, companies and communities in vulnerable areas (Sarmiento Eljadue 2020).

Armed groups have expanded territorial control through social mobilization tactics beyond the labour sphere; for instance, campaigns such as “Colombia, wake up, they are stealing our oil.”²¹ The ELN has promoted community rejection of extractive activities and state institutions (Luna 2024, 3:07; Acevedo Guerrero 2013). This strategy places communities in a dilemma: protecting their territories while relying on goods derived from the industry. Several community leaders (2024, 24:51) describe this situation as follows: “We say no to exploration ... but we love riding motorcycles and driving cars.” Furthermore, insurgent influence has led some communities to defend armed groups and confront the army through riots (Barrera Peña 2024, 18:56; Quiroga Rubio 2023b; Revista Semana 2023b). In this way, insurgents combine coercion with apparent benefits to instrumentalize communities and consolidate territorial dominance.

In regions controlled by illegal armed groups, fear and constant pressure severely restrict the actions of local communities. Out of fear of reprisals, these populations avoid speaking out or reporting their conditions due to armed intimidation. Several human rights advocates (2024, 8:34) describe the situation as follows: “Communities living under armed control have always been afraid to engage in dialogue, speak out or openly report these situations because of the intimidation and threats posed by armed groups, taking advantage of the minimal institutional presence in their territories.” This situation worsens due to the state’s absence and the lack of adequate defence mechanisms. Although some communities have organized Indigenous and *campesino* guards to protect their territories, these initiatives remain limited against the OAGs’

²¹ The argument that foreign companies “steal” Colombian oil disregards the industry’s demands and complexities. As Rettberg and Prieto (2018) point out, this industry is highly exclusive, requiring multimillion-dollar, long-term investments with high levels of risk and returns that may take decades to materialize. The Colombian state lacks the financial and technological capacity to exploit oil independently, so it relies on partnerships with companies that can assume these risks and make the necessary investments. These partnerships do not represent looting; instead, contracts regulate them to guarantee benefits for the state, such as royalties and taxes, which play a crucial role in financing national development.

power. As one community leader (2024, 20:31) explains: “Imagine what it is like for an Indigenous or peasant guardian to face someone armed with nothing but a stick.”

Territorial control and the lack of economic alternatives allow criminal groups to co-opt communities through economic pressure and violence, thereby reinforcing these populations’ dependence on illegal activities. As Barrera Peña (2024, 1:09) explains, “Economic motivation enables criminal groups to exert greater capacity to co-opt and instill fear in communities.” As a result, communities are forced to collaborate in illicit activities, such as crude oil looting, despite being fully aware of the environmental damage and harm to their territory. This coerced participation yields minimal economic benefit for the communities while subjecting them to a cycle of dependency and fear, where armed groups maintain proper control. These groups “force the community to carry out this work” and use violence as a tool of power (Barrera Peña 2024, 12:10).

Consequently, in regions controlled by OAGs, a culture of illegality has emerged, where illicit activities are normalized and legitimized as a means of subsistence. This phenomenon is particularly evident in contexts lacking formal economic opportunities. Insuasti Mejía (2024, 22:54) explains: “Decades of systemic neglect and societal dynamics have established a culture of illegality. These criminal activities are seen as normal work. For them, it is not delinquency; for them, it is work.” In such an environment, illegal activities provide not only immediate income but also become ingrained in local identity and serve as a form of resistance to the absence of state support. Consequently, communities engage in these activities and actively support armed groups by obstructing military interventions, which perpetuates structures that reinforce the territorial control of these groups.

4.2 Environmental Impact

The illegal extraction of oil and its clandestine refining in rural areas have caused severe environmental damage, impacting local communities that rely on essential water resources. In regions like Putumayo, where potable water and sanitation services are inadequate, the looting of crude oil contaminates rivers and aquifers, worsening the critical water access crisis (Caicedo 2023; El Tiempo 2022). Sarmiento Eljadue (2020, 97) highlights how this has disrupted the relationship between communities and their environment. A human rights advocate (2024, 6:19) explains, “Local communities see contaminants affecting their streams and water sources, particularly in rural areas.” The region’s environmental characteristics, including high humidity and heavy rainfall, exacerbate the issue by accelerating the spread of pollutants into underground aquifers, which extends and intensifies the damage.

Illicit refining, such as the production of *pategrillo*, worsens this situation. The process uses large volumes of crude oil, converting only a tiny fraction into gasoline while dumping the remainder into the environment, contaminating rivers and soils (Suárez 2020). Insuasti Mejía (2024, 27:12) explains: “The procedure involves taking the crude oil, depositing it in underground pools and subjecting it to high temperatures for the distillation process. As a result, they achieve approximately 67 per cent yield, while the remaining 33 per cent is dumped into water sources.” This process permanently damages the vegetation and the community’s water supply.

In response to this devastation, Barrera Peña (2024, 39:07) suggests that private companies implement compensation and environmental remediation plans, including phyto-remediation, hydro-remediation and reforestation programs, actively involving local communities. This collaboration not only helps mitigate environmental damage but also fosters community awareness and participation in preserving their surroundings, offering an alternative to the cycle of environmental harm and dependence on illicit practices. Only through a joint effort among

companies, the state and local communities will it be possible to protect the ecosystem and improve the quality of life for affected populations.

4.3 Corporate Social Responsibility

In Colombia's rural areas, extractive companies pose a critical challenge regarding corporate social responsibility due to their environmental and social impact on vulnerable communities. Amazonian communities question the legitimacy of an economy prioritizing economic profit over preserving the local ecosystem. A human rights advocate (2024, 38:15) states: "If a company is going to carry out its activities, it should take responsibility for the damage it causes to the ecosystem." This situation underscores the need for companies to adopt proactive approaches to environmental remediation and sustainable development. Barrera Peña ((2024, 34:20) emphasizes: "Companies know that achieving harmony and security in these territories requires investing in them." For communities, merely complying with environmental regulations is not enough; companies must become strategic allies of the state promoting sustainable economic alternatives.

However, to strengthen the relationship between extractive companies and communities, it is essential to address the moral hazards resulting from three interconnected challenges: unmet promises, inflated expectations and compensation management (El Tiempo 2014). Failing to deliver on commitments — whether due to delays or lack of concrete responses to environmental and social issues — undermines corporate credibility and creates a sense of abandonment. A community leader (2024, 8:42) explains: " ... the community's complaint in the territory stems from unfulfilled promises or delayed responses to the problems and impacts caused by oil extraction." Additionally, companies often generate disproportionate expectations, which deepen disappointment when they fail to meet them. Last, economic or infrastructure compensations face the challenge of meeting community needs realistically. These compensations must align with expectations for a sustainable relationship and reflect a genuine, long-term commitment.

Negotiation is critical in corporate social responsibility dynamics, especially when public policies fail to balance corporate and community interests. This lack of policies pushes residents to accept minimal agreements, creating unequal and conflict-laden relationships. A community leader (2024, 24:51) explains: " ... without adequate representation, communities can only sit down and agree to minimize the impacts as much as possible." People perceive these negotiations as transactional, leading to internal divisions: some leaders accept specific benefits, while others see the company as a threat to both the environment and social cohesion. Luna (2024, 1:08:53) highlights that communities often view private companies as adversaries because they fail to adopt a genuine, non-transactional approach. This tension emphasizes the need for authentic collaboration built on mutual understanding rather than the moral hazards that result from isolated agreements.

Last, the labour dependency of these communities on extractive activities creates a paradox. Resource exploitation generates jobs that, although temporary, are vital for the local economy. However, unemployment immediately impacts the community when operations cease, whether due to corporate decisions or infrastructure-related issues. Insuasti Mejía (2024, 15:14) explains: "Not using pipelines to transport crude oil directly affects communities because it leads to unemployment." This dependency underscores the need for companies to foster projects and establish community ties that extend beyond the extraction process. Companies can provide stability and mitigate the economic impact on communities by developing alternative sources of employment if extractive activities halt.

In summary, the relationship among local communities, extractive companies and armed groups in Colombia reveals a complex interplay shaped by moral hazard dynamics. The absence of effective governance has enabled the co-optation of vulnerable communities by illegal actors, who position themselves as protectors or providers in a context of economic exclusion and state neglect. This instrumentalization, combined with the perception that companies disregard social and environmental impacts, perpetuates a cycle of dependency and vulnerability that sustains cycles of violence and illegality in these regions. Breaking this cycle requires the state and companies to involve communities in participatory governance frameworks, promoting sustainable economic alternatives that reduce their reliance on illicit activities. Without a structural and inclusive commitment, inequalities and conflict will remain entrenched, hindering the development of these regions.

CONCLUSIONS: THE PRICE OF WEAKNESS

The Colombian hydrocarbon sector faces a critical vulnerability: it has been transformed into a systematically lootable resource. This phenomenon is not coincidental but deeply rooted in the structural weakness of the state and institutional fragmentation, which foster dynamics of moral hazard. Addressing the hydrocarbon sector's vulnerability comprehensively highlights that, in Colombia, state weakness is a deeply entrenched structural phenomenon serving specific historical and economic interests. This weakness is neither an accidental byproduct nor a temporary phase. It represents a deliberate design that has enabled the coexistence of unequal power structures and extractive economies while severely limiting the state's capacity to provide public goods and assert effective territorial control.

Mazucca (2021) notes that Latin American states, particularly those shaped by extractive economies, were not designed to ensure effective control or promote social inclusion.²² This historical design clarifies why state weakness in Colombia is not an anomaly but a functional feature that underscores its “exceptional efficacy” in preserving these structures. Viewed through this lens, the Colombian state is not weak by accident but is an exceptionally well-crafted weak state. Its inability to fully exercise sovereignty and deliver public goods is not the result of technical flaws but predictable outcomes of a historical framework that prioritizes specific interests over others. Acknowledging this reality is fundamental to understanding the price of weakness — how vulnerability dynamics, reflected in the relationship between hydrocarbon looting and the criminal economy, are embedded and perpetuated within this structural framework.

This analysis reveals that vulnerability stems directly from a complex interplay of institutional factors, opportunistic dynamics and fragmented governance. The state adopts a reactive and disjointed approach, limiting its capacity to address the problem comprehensively. At the same time, sector companies treat losses as manageable costs, reduce preventive investments and outsource security to third parties with little incentive to prevent damage. OAGs take advantage of state fragility and operational weaknesses to loot crude oil, using it to fund illicit activities that perpetuate conflict. Last, local communities, confronted with limited economic alternatives, are pressured into co-operating with illegal actors as a survival mechanism. While they gain short-term benefits, they ultimately shift the burden onto the state and companies. These findings underscore the pressing need to tackle the structural dynamics that undermine energy security, sustain criminal economies and deepen regional conflict.

²² See also Brinks, Levitsky and Murillo (2020) and Acemoglu and Robinson (2012), who discuss weak and ineffective institutions more generally, while Chowdhury (2018) challenges scholars to understand that weak states are the norm internationally.

State weakness is a central axis for understanding the Colombian hydrocarbon sector's vulnerability, creating optimal conditions for these risks to emerge. The state's failure to exercise effective territorial control and safeguard critical infrastructure creates power vacuums that illegal actors fill by exploiting strategic resources for financial gain. This situation highlights a disconnect between macroeconomic management and inadequate territorial governance, particularly in rural areas with entrenched historical conflicts. Consequently, the bi-directional relationship between state weakness and sectoral vulnerability manifests in a vicious cycle that perpetuates insecurity and entrenches the structural inequalities fuelling the conflict.

Moral hazards emerge as a central dynamic in shaping interactions among actors in the hydrocarbon sector. The absence of effective regulation and territorial control enables actors to act opportunistically, shifting responsibilities and costs onto the most vulnerable segments of society. While this behaviour may seem rational within a context of state weakness, its cumulative effect exacerbates structural vulnerability by eroding the state's ability to enforce order and deliver public goods. The interplay between state weakness and moral hazard underscores the urgent need for innovative governance that tackles this challenge's structural drivers and practical outcomes.

This study argues that moral hazard is a powerful analytical lens that reveals how structural incentives operate in chronic state weakness. In Colombia, moral hazard is not a theoretical abstraction — it materializes in everyday decisions shaped by fragmented authority, asymmetric risk distribution and systemic impunity. These dynamics do not stem from individual immorality but from institutional logics that enable actors to avoid accountability while sustaining extractive practices and governance vacuums. By interpreting moral hazard as a structural condition rather than a moral failure, we shift the focus from the behaviour of isolated actors to the architecture of a system that rewards inaction, opportunism and complicity. This theoretical insight deepens our understanding of why the hydrocarbon sector remains vulnerable and why efforts to reform it must confront the institutional incentives that normalize disorder and perpetuate inequality.

Addressing this challenge demands a transformative approach beyond merely correcting failures and tackling the structural conditions that sustain the sector's vulnerability. Since state weakness is not an accidental flaw but a functional and deeply embedded condition, interventions should prioritize adapting governance structures, enhancing state capacity where feasible in critical regions and pragmatically reshaping the economic incentives that sustain criminal economies. While institutional strengthening is achievable in some contexts, other scenarios require a pragmatic approach, fostering collaboration with a diverse range of state and non-state actors. Such a shift in perspective is essential to address the root causes of hydrocarbon looting and to advance an inclusive and sustainable development model that transforms this issue into an opportunity to bolster regional stability and governance. Unless actors address this with the urgency it warrants, the cost of weakness will continue to manifest as insecurity, inequality and missed opportunities.

REFERENCES

- Acemoglu, D., and J. Robinson. 2012. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. New York: Crown Business.
- Acevedo Guerrero, T. 2013. “Despierta, Colombia ... nos están robando el petróleo.” *El Espectador*. January 23. <https://www.elespectador.com/opinion/columnistas/tatiana-acevedo-guerrero/desperta-colombia-nos-estan-robando-el-petroleo-column-398464/>.
- Argüello, F. 2016. “‘Pategrillo,’ ‘Pategrillo,’ el negocio ‘desorbitad’ en Catatumbo. El ELN, EPL cobran impuesto por esta gasolina ilegal para procesar cocaína.” Caracol Radio. Orden Público. December 16. https://caracol.com.co/emisora/2016/12/16/cucuta/1481905302_259097.html.
- Arrow, K. J. 1963. “Uncertainty and the Welfare Economics of Medical Care.” *The American Economic Review* 53(5): 941-973. <https://assets.aeaweb.org/asset-server/files/9442.pdf>.
- Asociación Colombiana del Petróleo y Gas (ACPG). 2024. “Sector de combustibles líquidos en Colombia. Evolución 2023 y perspectivas 2024-2033.” <https://acp.com.co/portal/download/informe-economico-sector-de-combustibles-liquidos-en-colombia/>.
- Avellaneda Cusarúa, A. 2004. “Petróleo, ambiente y conflicto en Colombia.” In *Guerra, sociedad y medio ambiente*: 455-501. Foro Nacional Ambiental. <https://library.fes.de/pdf-files/bueros/kolumbien/01993/11.pdf>.
- Barrera Peña, A. 2024. Interview by Antonio Quiñones and Pablo Policzer.
- Bejarano, A. M., and R. Segura Bonnett. 1996. “El fortalecimiento selectivo del Estado durante el Frente Nacional.” *Controversia* 169: 217-262. <https://doi.org/10.54118/controver.v0i169.356>.
- Bermejo Galán, J., J. Lamadrid González, and O. Galán Escalante. 2017. “Evolución jurídica de la responsabilidad del Estado por actos terroristas en Colombia.” *Jurídicas CUC* 13(1): 71-96. <https://doi.org/10.17981/juridcuc.13.1.2017.04>.
- Blattman, C., G. Duncan, B. Lessing, and S. Tobón. 2024. “Gang Rule: Understanding and Countering Criminal Governance.” *The Review of Economic Studies*. September 5. <https://doi.org/10.1093/restud/rdae079>.
- Bloomberg. 2023. “Cocaína superaría al petróleo como el principal producto de exportación de Colombia.” *La República*. September 14. <https://www.larepublica.co/economia/cocaina-superaria-al-petroleo-como-el-principal-producto-de-exportacion-de-colombia-3704868>.
- Bordogna, L. 2008. “Moral Hazard, Transaction Costs and the Reform of Public Service Employment Relations.” *European Journal of Industrial Relations* 14(4): 381-400. DOI:10.1177/0959680108097492.
- Brinks, D., S. Levitsky, and M. Murillo, eds. 2020. *The Politics of Institutional Weakness in Latin America*. Cambridge, UK: Cambridge University Press.
- Caicedo, E. 2023. “Un derrame de crudo afecta los ríos Mocoa y Caquetá; piden apoyo del Gobierno.” *El Tiempo*. October 11. <https://www.eltiempo.com/vida/medio-ambiente/derrame-de-crudo-afecta-los-rios-mocoa-y-caqueta-piden-apoyo-del-gobierno-815041>.
- Centro Nacional de Memoria Histórica (CNMH). 2015. “Petróleo, coca, despojo territorial y organización social en Putumayo.” Bogotá.

- Chowdhury, A.. 2018. *The Myth of International Order: Why Weak States Persist and Alternatives to the State Fade Away*. Oxford, UK: Oxford University Press.
- Cifuentes Quintero, S. 2024. "Otty Patiño volvió a arremeter contra el ELN y afirma que el grupo armado no conseguirá la paz 'poniendo bombas a los oleoductos.'" Infobae. <https://www.infobae.com/colombia/2024/09/07/otty-patino-volvio-a-arremeter-contra-el-eln-y-afirma-que-el-grupo-armado-no-conseguira-la-paz-poniendo-bombas-a-los-oleoductos/>.
- Comunidad Andina de Naciones (CAN). 2013. *Manual de Sustancias Químicas usadas en el Procesamiento de Drogas Ilícitas. Programa anti-drogas ilícitas en la Comunidad Andina*. Secretaría General de la Comunidad Andina.
- Congreso de la República de Colombia. 1995. Ley 191 por medio de la cual se dictan disposiciones sobre Zonas de Frontera.
- . 2006. Ley 1028 por la cual se adiciona el Código Penal y se dictan otras disposiciones. Del apoderamiento de los hidrocarburos, sus derivados, biocombustibles o mezclas que los contengan y otras disposiciones.
- Corte Constitucional de la República de Colombia. 1996. Sentencia T-651/96.
- De la Rosa, M. 2020. "Dos ríos en Nariño, afectados por derrame de crudo del Transandino." *El Tiempo*. June 7. <https://www.eltiempo.com/colombia/cali/dos-rios-en-narino-afectados-por-derrame-de-crudo-del-trasandino-504168>.
- Defensor de Derechos Humanos. 2024. Interview by Antonio Quiñones and Pablo Policzer.
- Di John, J. 2010. "Conceptualización de las causas y consecuencias de los Estados fallidos: una reseña crítica de la literatura." *Revista de Estudios Sociales* 37: 46-86. <http://journals.openedition.org/revestudsoc/12528>.
- Edelman, M. 1985. *The Symbolic Uses of Politics*. Champaign-Urbana, IL: University of Illinois Press.
- El Espectador. 2015. "Ecopetrol recibe patente para tecnología que evita hurto de combustibles." April 17. <https://www.elespectador.com/economia/ecopetrol-recibe-patente-para-tecnologia-que-evita-hurto-de-combustibles-article-555739/>.
- . 2024. "Ecopetrol perdió \$3,6 billones en cinco años por hurtos de hidrocarburos." May 30. <https://www.elespectador.com/economia/empresas/ecopetrol-perdio-36-billones-en-cinco-anos-por-hurtos-de-petroleo/>.
- El Nuevo Herald. 2015. "Fiscalía colombiana pide cinco detenciones por vínculos de petrolera con ELN." February 19. <https://www.elnuevoherald.com/noticias/america-latina/colombia-es/article10728053.html>.
- El Tiempo. 1995. "Habría que militarizar las Petroleras." <https://www.eltiempo.com/archivo/documento/MAM-434047>.
- . 1996a. "Mannesmann pagó US\$ 2 millones." <https://www.eltiempo.com/archivo/documento/MAM-599309>.
- . 1996b. "Petroleras pueden contratar seguridad con Fuerzas Armadas." <https://www.eltiempo.com/archivo/documento/MAM-612326>.
- . 2014. "Tensión entre comunidades y petroleras afecta la producción." <https://www.eltiempo.com/archivo/documento/DR-869024>.

- . 2016. “Eln dinamitó en Arauca el oleoducto Caño Limón-Coveñas.” <https://www.eltiempo.com/colombia/otras-ciudades/el-dinamito-oleoducto-cano-limon-covenas-49731>.
- . 2017. “Desde este viernes, pararán la producción del oleoducto Caño Limón.” <https://www.eltiempo.com/economia/sectores/suspenden-produccion-de-petroleo-en-oleoducto-cano-limon-covenas-46804>.
- . 2022. “Recogen crudo vertido por rotura de oleoducto en la Amazonía de Ecuador.” <https://www.eltiempo.com/vida/medio-ambiente/amazonia-recogen-crudo-vertido-por-rotura-de-oleoducto-en-ecuador-648721>.
- . 2023a. “El Eln participó en saqueo de crudo a Ecopetrol del que está trinando Petro.” <https://www.eltiempo.com/unidad-investigativa/ecopetrol-el-eln-participo-en-saqueo-de-crudo-del-que-esta-trinando-petro-790039>.
- . 2023b. “PDVSA y un expleado de Ecopetrol, piezas clave en saqueo de crudo colombiano.” *El Tiempo*. <https://www.eltiempo.com/unidad-investigativa/robo-de-crudo-pdvsa-y-un-expleado-de-ecopetrol-piezas-clave-790239>.
- . 2024. “Robo a oleoductos produce más pérdidas que las voladuras.” *El Tiempo*. <https://www.eltiempo.com/archivo/documento/CMS-16573128>.
- Escobar Moreno, D. 2023. “Las alarmantes cifras de Ecopetrol sobre el robo de crudo en Colombia.” *El Espectador*. <https://www.elespectador.com/judicial/las-alarmanes-cifras-de-ecopetrol-sobre-el-robo-de-crudo-en-colombia/>.
- Feldmann, A. E., and J. P. Luna. 2022. “Criminal Governance and the Crisis of Contemporary Latin American States.” *Annual Review of Sociology*, 48(1): 441–61. <https://doi.org/10.1146/annurev-soc-030420-124931>.
- Geertz, C. 1973. *The Interpretation of Cultures*. New York: Basic Books, Inc.
- Griffin, O. 2022. “El robo de petróleo en Colombia se dispara, dejando un rastro de daño ambiental.” Reuters. <https://www.reuters.com/world/americas/colombias-oil-theft-soars-leaving-trail-environmental-harm-2022-12-23/>.
- Hilgert, J. 2013. *Hazard or Hardship: Crafting Global Norms on the Right to Refuse Unsafe Work*. Ithaca, NY: ILR Press.
- Holmström, B. 1979. “Moral Hazard and Observability.” *The Bell Journal of Economics* 10(1): 74–91. Rand Corporation. <https://doi.org/10.2307/3003320>.
- Insuasti Mejía, W. 2024. Interview by Antonio Quiñones and Pablo Policzer.
- Krugman, P. 2009. *The Return of Depression Economics and the Crisis of 2008*. New York: W.W. Norton.
- Lebillon, P. 2003. “The Political Ecology of War and Resource Exploitation.” *Studies in Political Economy* 70(1): 59–95. <https://doi.org/10.1080/07078552.2003.11827130>.
- Líder Social. 2024. Interview by Antonio Quiñones and Pablo Policzer.
- Lloreda Mera, F. 2024. Interview by Antonio Quiñones and Pablo Policzer.
- Loaiza, L. 2019. “Las gasolineras al servicio de los narcos en Colombia.” InSight Crime. <https://insightcrime.org/es/noticias/las-gasolineras-al-servicio-de-los-narcos-en-colombia/>.
- Luna, L. 2024. Interview by Antonio Quiñones and Pablo Policzer.

- Mann, M. 1984. "The Autonomous Power of the State: Its Origins, Mechanisms and Results." *European Journal of Sociology* 25(2): 185-213. <http://www.jstor.org/stable/23999270>.
- Marín, Isabela, and Andrés Cajiao. 2015. "El ELN y la industria petrolera: ataques a la infraestructura en Arauca." Fundación Ideas para la Paz (FIP). <https://ideaspaz.org/publicaciones/investigaciones-analisis/2015-05/el-eln-y-la-industria-petrolera-ataques-a-la-infraestructura-en-arauca>.
- Martínez Ortiz, Astrid, Miguel Marulanda, and Juan Pablo Barreto. 2019. "Riesgos de la distribución minorista de combustibles líquidos de uso automotor en Colombia." Fedesarrollo. https://www.repository.fedesarrollo.org.co/bitstream/handle/11445/3896/Repor_Enero_2019_Mart%EDnez_y_Marulanda.pdf?sequence=5.
- Mazzuca, S. 2021. *Latecomer State Formation: Political Geography and Capacity Failure in Latin America*. New Haven, CT: Yale University Press.
- Medina Gallego, C. 2005. "La Economía de Guerra Paramilitar: Una Aproximación a sus Fuentes de Financiación." *Análisis Político* 18: 77-87. http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0121-47052005000100005&nrm=iso.
- Mejía, D., and D. Rico. 2010. "La microeconomía de la producción y tráfico de cocaína en Colombia." *Documentos Centro de Estudios sobre Desarrollo Económico (CEDE)* 19. <https://doi.org/10.57784/1992/41004>. <http://hdl.handle.net/1992/41004>.
- Meléndez Pertuz, F., J. González Coneo, and Z. Comas González. 2016. "Integridad estructural de tuberías de transporte de hidrocarburos: Panorama actual." *Revista Espacios* 38(17). https://www.researchgate.net/publication/316171988_Integridad_estructural_de_tuberias_de_transporte_de_hidrocarburos_Panorama_actual.
- Méndez, A. 2020. "Cae poderosa red que robó millones a Ecopetrol." *El Tiempo*. Delitos. January 25. <https://www.eltiempo.com/justicia/delitos/poderosa-red-que-robaba-petroleo-a-ecopetrol-para-venderlo-455402>.
- Mishkin, F. S. 1999. "Global Financial Instability: Framework, Events, Issues." *Journal of Economic Perspectives* 13(4): 3-20. <https://www.aeaweb.org/articles?id=10.1257/jep.13.4.3>.
- Monroy Giraldo, J. C. 2015. "Perdidos 4,1 millones de barriles de crudo en ataques." *El Colombiano*. July 2. <https://www.elcolombiano.com/colombia/perdidos-4-1-millones-de-barriles-de-crudo-en-ataques-GA2233392>.
- Monterrosa Blanco, H. 2018. "El contrabando impacta hasta 15% de la venta de gasolina en el mercado local." *La República*. August 21. <https://www.larepublica.co/economia/el-contrabando-impacta-hasta-15-de-la-venta-de-gasolina-en-el-pais-2761615>.
- Moreno Mendieta, L. 2019. "Robo de hidrocarburos en el mundo." *Oil & Gas Magazine*. February 1. <https://energymagazine.mx/2019/02/robo-de-hidrocarburos-en-el-mundo/>.
- Munck, G. L., and J. P. Luna. 2020. "Latin America: Democracy in Hard Times." *Journal of Democracy* 31(2): 101-115.
- O'Donnell, G. 1993. "On the State, Democratization and Some Conceptual Problems: A Latin American View with Glances at Some Postcommunist Countries." *World Development* 21(8): 1355-1369. [https://doi.org/10.1016/0305-750X\(93\)90048-E](https://doi.org/10.1016/0305-750X(93)90048-E).
- Oficina de las Naciones Unidas contra la Droga y el Delito (UNODC). 2024. "Resultados del monitoreo a cultivos de coca hecho en 2023 no son ajenos a presión global por aumento de la demanda." <https://www.unodc.org/rocol/es/noticias/colombia/monitoreo-de-territorios-con-presencia-de-cultivos-de-coca-2023.html>.

- Olawuyi, D., J. J. González, H. Mostert, M. F. Montoya, and C. Banet. 2024. "Net Zero and Energy Diversification: Lessons from Colombia." In *Net Zero and Natural Resources Law: Sovereignty, Security, and Solidarity in the Clean Energy Transition*, 125-142. Oxford, UK: Oxford University Press.
- Pécaut, D. 2015. "Un conflicto armado al servicio del statu quo social y político." In *Contribución al entendimiento del conflicto armado en Colombia*, 599-651. Bogotá: Comisión de Historia del Conflicto y sus Víctimas.
- Presidencia de la República de Colombia. 2015. Decreto 1073 por la cual medio del cual se expide el Decreto Único Reglamentario del Sector Administrativo de Minas y Energía.
- Quiroga Rubio, L. 2023a. "Colombia ha perdido \$ 1,4 billones por atentados al oleoducto Caño Limón-Coveñas." *El Tiempo*. October 25. <https://www.eltiempo.com/economia/sectores/colombia-ha-perdido-1-4-billones-por-atentados-al-oleoducto-cano-limon-covenas-819761>.
- . 2023b. "Toma de campo petrolero en Caquetá podría causar una tragedia ambiental." *El Tiempo*. March 2. <https://www.eltiempo.com/economia/sectores/caqueta-toma-de-campo-petrolero-podria-causar-una-tragedia-ambiental-746690>.
- . 2024. "Ecopetrol ha perdido más de \$ 3,6 billones por hurto de petróleo, atentados y conexiones ilícitas." *El Tiempo*. May 31. <https://www.eltiempo.com/economia/empresas/ecopetrol-ha-perdido-3-6-billones-por-hurto-de-petroleo-atentados-y-conexiones-ilicitas-3347980#:~:text=En%20los%20%C3%BAltimos%20cinco%20a%C3%B1os,millones%20de%20barriles%20de%20crudo.&text=Delitos%20contra%20la%20infraestructura%20petrolera,en%20los%20%C3%BAltimos%20cinco%20a%C3%B1os>.
- Rettberg, A., and J. D. Prieto. 2018. "Conflicto crudo: petróleo, conflicto armado y criminalidad en Colombia." In *¿Diferentes recursos, conflictos distintos? La economía política regional del conflicto armado y la criminalidad en Colombia*, 135-192. Bogotá: Uniandes.
- Revista Semana. 1988. "¿Quién fue? Qué hay detrás de la bomba en el bunker de Pablo Escobar." February 14. <https://www.semana.com/nacion/articulo/quien-fue/9886-3/>.
- . 2012. "Ecopetrol crea tecnología para detectar perforaciones en oleoductos." July 30. <https://www.semana.com/actualidad/noticias/articulo/ecopetrol-crea-tecnologia-para-detectar-perforaciones-oleoductos/156191/>.
- . 2015. "El escándalo de la Mannesmann." January 31. <https://www.semana.com/nacion/articulo/el-escandalo-de-la-mannesmann/416529-3/>.
- . 2023a. "¿De cuánto han sido las pérdidas por los ataques al oleoducto Caño Limón-Coveñas?" October 28. <https://www.semana.com/economia/macroeconomia/articulo/de-cuanto-han-sido-las-perdidas-por-los-ataques-al-oleoducto-cano-limon-covenas/202353/>.
- . 2023b. "Esta es la escalofriante historia de Emerald Energy, la petrolera que estuvo 'bajo fuego' en San Vicente del Caguán." March 10. <https://www.semana.com/economia/macroeconomia/articulo/esta-es-la-historia-de-la-petrolera-que-estuvo-bajo-fuego-en-san-vicente-del-caguan/202319/>.
- Rincón, H., and A. Garavito. 2024. "Mercado Actual de la Gasolina y del ACPM en Colombia e Inflación." *Borradores de Economía del Banco de la República de Colombia* (287). <https://doi.org/10.32468/be.287>. <https://repositorio.banrep.gov.co/items/7f116ae3-486b-44de-8c17-95f47782cf16>.
- Rodríguez Álvarez, S. 2023. "Antonio García, la mano dura detrás de la negociación con el ELN." *La Silla Vacía*. <https://www.lasillavacia.com/silla-nacional/antonio-garcia-la-mano-dura-detras-de-la-negociacion-del-eln/>.

- Rotberg, R. 2004. *When States Fail: Causes and Consequences*. Princeton, NJ: Princeton University Press.
- Sánchez, C. 2024. "La coca, un soporte económico vital con beneficios fugaces para la Colombia más apartada." *El País*. August 21. <https://elpais.com/america-colombia/2024-08-21/la-coca-un-soporte-economico-vital-con-beneficios-fugaces-para-la-colombia-mas-apartada.html>.
- Sarmiento Eljadue, Nataly. 2020. "Verdad y afectaciones a la infraestructura petrolera durante el conflicto armado." Fundación Ideas para la Paz. <https://ideaspaz.org/publicaciones/investigaciones-analisis/2020-07/verdad-y-afectaciones-a-la-infraestructura-petrolera-durante-el-conflicto-armado>.
- Schwab, J., and N. C. Combariza Diaz. 2023. "The Discursive Blinkers of Climate Change: Energy Transition as a Wicked Problem." *The Extractive Industries and Society* 15: 101319. <https://doi.org/https://doi.org/10.1016/j.exis.2023.101319>. <https://www.sciencedirect.com/science/article/pii/S2214790X23001090>.
- Schwartz-Shea, P., and D. Yanow. 2012. *Interpretive Research Design. Concepts and Processes*. Milton Park, Abingdon-on-Thames, UK: Routledge.
- Shavell, S. 1979. "On Moral Hazard and Insurance." *The Quarterly Journal of Economics* 93(4): 541-562. <https://doi.org/10.2307/1884469>.
- Snyder, R. 2006. "Does Lootable Wealth Breed Disorder? A Political Economy of Extraction Framework." *Comparative Political Studies* 39(8): 943-968. <https://doi.org/10.1177/0010414006288724>. <https://journals.sagepub.com/doi/abs/10.1177/0010414006288724>.
- Stiglitz, J. E. 1983. "Risk, Incentives, and Insurance: The Pure Theory of Moral Hazard." *The Geneva Papers on Risk and Insurance* 8 (26): 4-33. <https://link.springer.com/article/10.1057/gpp.1983.2>.
- Suárez, N. 2020. "'Pategrillo' - The New Boon for Colombia's Cocaine Labs." InSight Crime. <https://insightcrime.org/news/pategrillo-colombia-cocaine-labs/>.
- Tilly, C. 1992. *Coercion, Capital, and European States: AD 990-1990*. Hoboken, NJ: Wiley-Blackwell.
- Velandia Jagua, C. A. 2024. Interview by Antonio Quiñones and Pablo Policzer.
- Verdad Abierta. 2016. "El 'oro negro' del Catatumbo, atractivo de los grupos ilegales." Verdadabierta.com. Crimen Organizado. <https://verdadabierta.com/el-oro-negro-del-catatumbo-atractivo-de-los-grupos-ilegales/>.

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