International Journal of Economics, Business & Sustainable Management
ISSN 3139-0919
Volume 2 Issue 3 (July – Sep) 2026

SOLID MINERAL EXTRACTION AND GLOBAL TERRORISM: BUSINESS OF THE MAFIAS

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Article History

Received: 10 July 2026 | Accepted: 05 Sep 2026 | Published: 21 Sep 2026

DOI: 10.5281/zenodo.22867362

ABSTRACT

The convergence of organised crime and the global solid minerals trade has become one of the most consequential, and least regulated, security challenges of the twenty-first century. As demand for gold, coltan, tin, tungsten, cobalt and lithium accelerates under the pressures of digitalisation, electrification and defence procurement, criminal networks loosely grouped under the label "mafia" have moved from the margins of the extractive sector to its operational core in large parts of Africa, Latin America, Asia and Eastern Europe. This article develops an integrated conceptual and empirical account of how such networks capture artisanal and small-scale mining (ASM) zones, launder mineral value through opaque trading chains, and convert proceeds into financing for armed insurgency and, in several documented cases, into direct or indirect support for organisations designated as terrorist entities. Drawing on a synthesis of policy reports, sanctions actions, investigative journalism and academic literature, the article maps the typology of mafia actors operating in the minerals space, details their operational repertoire, and traces the mechanisms by which mineral rents are transformed into weapons, fighters and territorial expansion for armed groups such as the AFC/M23 coalition, ISWAP, JNIM and Wagner-linked networks. A central contribution of the article is its documentation of an emerging and under-theorised phenomenon: the use of cult-style initiation rites, oath-taking, blood covenants and secret-society structures historically associated with campus and urban cultism, as a formal condition of membership and labour discipline within mafia-controlled mining camps. The article argues that this "new mafia architecture" functions as a low-cost, high-loyalty human-resource technology that binds recruits through spiritual and social sanction rather than contract, making detection, defection and prosecution significantly harder. The article concludes with a comparative policy framework for supply-chain due

diligence, community-centred security and criminal-justice responses appropriate to a genuinely global problem.

Keywords: Solid minerals; artisanal mining; organised crime; mafia; terrorism financing; conflict minerals; cultism; recruitment; illicit trade.

1. Introduction

Solid mineral extraction sits at an uneasy intersection of legitimate economic opportunity and criminal predation. Gold, tin, tantalum, tungsten, cobalt, lithium, diamonds and rare-earth elements are indispensable to consumer electronics, renewable-energy technology, electric vehicles and modern weapons systems, and global demand for them is rising faster than formal, regulated supply. In 2025 the Global Organized Crime Index recorded that roughly 73 countries, close to forty percent of all states assessed, experienced significant to severe levels of criminality connected to non-renewable resources, with Africa and Asia identified as the regions of greatest concern (Global Initiative Against Transnational Organized Crime, 2026). Wherever this rising demand meets weak state capacity, porous borders and entrenched corruption, criminal organisations, whether structured as classical mafia-style "families," as diffuse trafficking networks, or as insurgent groups that behave like criminal enterprises, have proven remarkably adept at inserting themselves into the mineral value chain.

This article uses "mafia" in an analytically extended sense. It does not confine the term to the Sicilian, Calabrian or other Italian criminal organisations from which the word originates, but instead follows the comparative organised-crime literature in using it to denote any hierarchically or network-organised criminal group that exercises territorial control, extracts illegal rents through violence or the threat of violence, and reproduces itself over time through recruitment, discipline and (increasingly) ritual. Understood this way, the term comfortably covers Nigerian mining-belt bandit syndicates, Congolese and Rwandan-linked armed-group trading networks, Latin American cartel-controlled gold operations, and hybrid criminal-insurgent formations in the Sahel and Myanmar (Jimmy & Osogi, 2024, Jimmy 2025).

The article pursues four interlocking objectives. First, it clarifies who the relevant mafia actors are, offering a working typology that distinguishes classical organised-crime families, hybrid criminal-insurgent groups, elite-bandit collusion networks, and state-tolerated or state-linked paramilitary trading operations. Second, it documents how these actors operate within the mining sector, from initial territorial capture through smuggling, document fraud and laundering, to the reinvestment of proceeds in weapons and expansion. Third, it explains why and how the mining sector in particular, as opposed to other economic sectors, has become so vulnerable to this kind of capture. Fourth, and most originally, it investigates an emerging organisational innovation: the incorporation of cult-style initiation rites into the recruitment and membership architecture of mining-sector criminal groups, a phenomenon most visible in Nigeria but with structural parallels elsewhere. The article closes with a comparative, globally oriented policy discussion.

1.1. Scope and Approach

This is a conceptual and evidentiary synthesis rather than a primary field study. It draws on four categories of source material: (i) intergovernmental and multilateral reporting, including United Nations Group of Experts reports, sanctions designations and due-diligence guidance; (ii) national government and law-enforcement statements, including United States Treasury and State Department actions and comparable materials from African and Latin American governments; (iii) peer-reviewed and grey-literature research on artisanal and small-scale mining, banditry and organised crime; and (iv) investigative journalism, which remains, for many of the most opaque mining zones, the most current and granular source of operational detail. Because the phenomena under discussion evolve quickly, particular attention is given to material from 2023 through 2026. The article's geographic scope is deliberately global: it draws case material from the Democratic Republic of the Congo and the African Great Lakes region, the Sahel, Nigeria, Southern Africa, Latin America, Southeast Asia (notably Myanmar) and, where mineral wealth intersects with sanctioned paramilitary activity, Eastern Europe and the Russian Federation's periphery.

2. Literature Review

2.1 Who are the Mafias? A Global Typology

"Mafia" is often used loosely in both journalism and policy discourse, but a defensible analytic definition requires four features: (a) a durable organisational identity that outlasts any single transaction or leader; (b) control, partial or total, of a territory or economic node; (c) the routine use or threat of violence to enforce that control and to extract rent; and (d) mechanisms of internal discipline, recruitment and succession that allow the organisation to reproduce itself. Applying these criteria to the global solid-minerals sector yields at least five recurring organisational forms, summarised in Table 1.

Table 1. A Global Typology of Mafia and Mafia-like Actors in the Solid Minerals Sector

Type	Defining Features	Illustrative Cases
Classical organised-crime families	Kinship- or ethnicity-based hierarchy; informal oath of loyalty (omertà-type codes); diversified criminal portfolio in which mining is one revenue stream among several (extortion, trafficking, construction)	Italian mafia interests in quarrying and construction aggregates; Latin American cartel diversification into illegal gold mining (e.g., Sinaloa- and CJNG-linked operations in Mexico)

Hybrid criminal-insurgent groups	Combine an ideological or political programme with systematic resource predation; mineral rents fund arms, salaries and territorial administration	AFC/M23 control of coltan sites in North Kivu, DRC; JNIM and Islamic State Sahel Province (ISGS) taxation of artisanal gold sites in Mali, Burkina Faso and Niger
Elite-bandit collusion networks	Local economic and political elites finance, arm and legitimise nominally independent "bandit" groups that guard or seize mine sites on their behalf	Katsina and Zamfara gold-mining banditry in north-west Nigeria, where mine-field owners have historically hired armed guards who evolved into autonomous predatory groups
State-linked or state-tolerated paramilitary trading networks	Formally private military or trading entities operate with the tacit or explicit protection of a state actor, extracting minerals as payment-in-kind for security or political services	Wagner Group-linked gold operations in Mali, Sudan and the Central African Republic; military-tolerated rare-earth extraction by Chinese-linked firms in parts of Myanmar
Transnational trafficking and laundering intermediaries	Do not control mine sites directly but specialise in smuggling, document fraud, mislabelling and refining, converting "dirty" minerals into apparently "clean" traded commodities	Cross-border coltan and tin smuggling from eastern DRC through Rwanda and Uganda; gold-smuggling and refining circuits through the United Arab Emirates

These categories are ideal types rather than mutually exclusive boxes; in practice a single mining district may host several forms simultaneously, and groups migrate between categories over time. A bandit network that begins as hired mine-site security, for instance, can evolve into an autonomous predatory mafia, and later into a quasi-insurgent force once it accumulates enough weapons and territorial control to contest state authority (Guardian Nigeria, 2025; The Conversation, 2025). This fluidity is itself an important analytic finding: the mining mafia is less a fixed cast of actors than a set of roles that different groups occupy and vacate as opportunity and pressure dictate (Dickie, 2013).

2.2 The Operations of Mafias in the Mining Sector

Mafia involvement in solid mineral extraction follows a recognisable operational sequence that can be observed, with local variation, from the Sahel to the Andes (Jimmy et al, 2025, Jimmy 2025, 2026). Four stages recur across regions: territorial capture, extraction and taxation, smuggling and laundering, and reinvestment. Table 2 sets out the principal mechanisms at each stage together with representative regional evidence.

Table 2. Operational Repertoire of Mining-Sector Mafias, by Stage

Stage	Typical Mechanisms	Regional Evidence
1. Territorial capture	Armed seizure of mine sites; assassination or co-optation of rival miners and local chiefs; exploitation of unclear or contested land and mineral rights	M23/AFC's April 2024 seizure of Rubaya, a site supplying an estimated fifteen to thirty percent of global coltan production (Global Initiative, 2026; Global South Forum, 2025)
2. Extraction and illegal taxation	Forced and child labour; "protection" levies charged per bag or per miner; control of access roads, water points and processing equipment	UN and US Treasury reporting on armed-group taxation schemes in eastern DRC, often exercised in collusion with local officials (US Embassy Kinshasa, 2025)
3. Smuggling and laundering	Cross-border transport to jurisdictions with weaker controls; falsified certificates of origin; blending of illicit and licit minerals before export; complicit refiners and traders	Smuggling of Congolese minerals through Rwanda, with inflated domestic production figures used to disguise the origin of exported tin, tungsten and tantalum (Global South Forum, 2025); gold-refinery due-diligence failures documented in the United Arab Emirates (Just Security, 2026)
4. Reinvestment	Conversion of proceeds into small arms and light weapons, vehicles, communications equipment and fighter salaries; real-estate and trade-based laundering; political patronage	Wagner-linked gold revenue supporting paramilitary operations in Mali and the Central African Republic (Just Security, 2026); bandit purchase of weapons from proceeds of Zamfara and Katsina gold mining (Gulf Times, 2026; ThisNigeria, 2026)

A recurring feature across all four stages is the deliberate exploitation of regulatory and jurisdictional seams. Gold is particularly favoured by criminal actors precisely because, unlike tin, tantalum and tungsten, it is difficult to trace metallurgically once smelted, making certification schemes far less effective; the United States Government Accountability Office found that a decade of mandated corporate disclosure under the Dodd-Frank conflict-minerals rule had not measurably reduced violence in eastern DRC, in part because gold's fungibility allowed armed groups to continue profiting even as other minerals came under tighter scrutiny (GAO, 2024). Certification schemes themselves have also been directly compromised: the industry-run ITSCI traceability scheme was suspended by the Responsible Minerals Initiative in 2024 after evidence of serious fraud, yet many downstream companies continued to rely on its documentation (Genocide Watch, 2025).

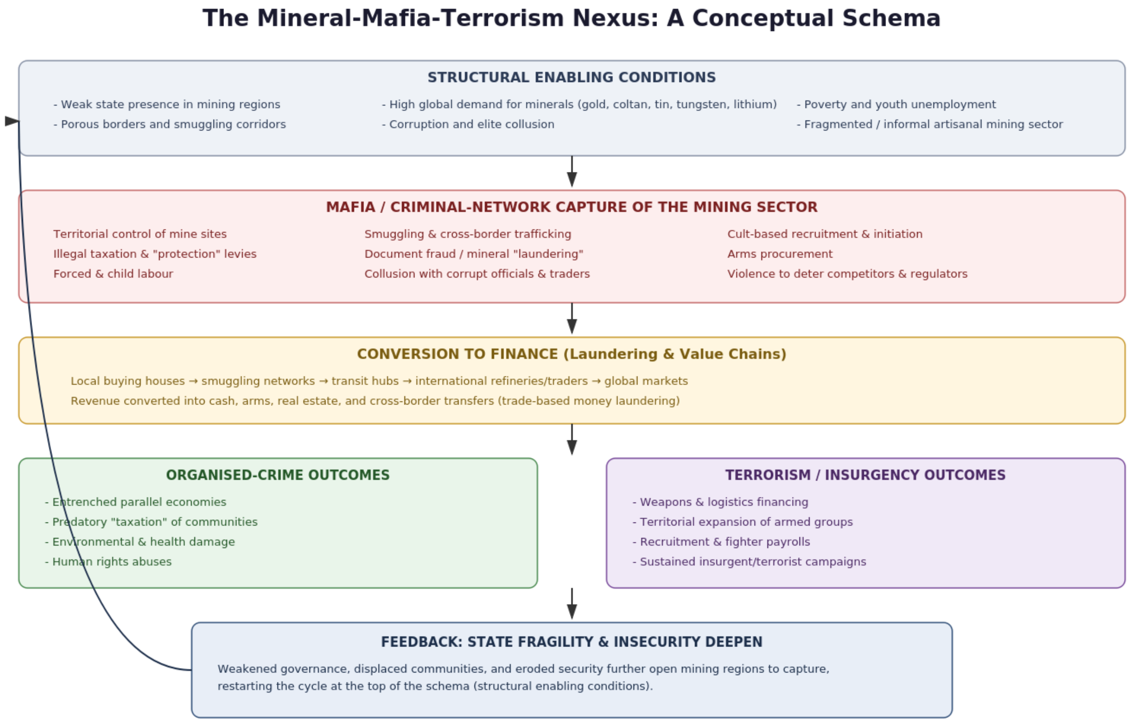

Figure 1. The Mineral-Mafia-Terrorism Nexus: a conceptual schema showing how structural enabling conditions permit mafia capture of mining sites, how captured value is laundered into finance, and how that finance produces both organised-crime and terrorism/insurgency outcomes that feed back into state fragility.

2.3 Why and How Mafias overrun the Mining Sector

The mining sector and artisanal and small-scale mining in particular, presents a distinctive combination of vulnerabilities that make it more susceptible to criminal capture than most other economic sectors. Six structural factors recur across the case literature.

First, spatial remoteness and weak state presence. Mineral deposits are fixed by geology rather than by proximity to state institutions, so many of the world's most valuable deposits lie in remote, poorly policed frontier regions, from eastern DRC's Kivu provinces to north-western Nigeria's Zamfara and Kebbi states. Nigeria's counter-terrorism coordinator has explicitly described illegal mining as intersecting with "banditry, insurgency, arms trafficking and cross-border smuggling" precisely because state security architecture has historically neglected mining sites (TRT Afrika, 2025).

Second, the informality and fragmentation of artisanal mining. Tens of millions of people worldwide depend on artisanal and small-scale mining for their livelihoods, typically working with minimal capital, no formal land title and no access to legal credit. This informality, which is often a rational response to exclusionary mining laws that vest all subsoil rights in central government, creates a protection vacuum that armed actors are well placed to fill, positioning themselves as alternative providers of security, credit and market access in exchange for a cut of production (ENACT Africa, 2020; The Conversation, 2025).

Third, high value-to-weight ratios and portability. Gold, coltan and gemstones combine very high per-unit value with low bulk, making them exceptionally easy to smuggle relative to almost any other commodity, including agricultural or timber products that have historically financed other conflicts. A single light aircraft or a handful of couriers can move a fortune in gold across a border undetected.

Fourth, elite complicity and corruption. In numerous documented cases, illegal mining is not simply a matter of poor communities acting outside the law but of powerful economic and political elites actively sponsoring or profiting from it. Nigerian researchers interviewing bandits, miners and community leaders in Katsina and Zamfara found that gold mining had for decades been dominated by wealthy and politically connected individuals who hired armed men to guard their claims from rivals, a dynamic that subsequently spiralled beyond elite control (The Conversation, 2025; Naijiant, 2025).

Fifth, rising global demand outpacing regulatory capacity. The clean-energy transition and the expansion of defence and electronics manufacturing have sharply increased demand for so-called critical and strategic minerals, minerals for which formal supply chains and oversight institutions have not kept pace, creating exactly the kind of regulatory gap that criminal actors exploit (Global Initiative, 2026).

Sixth, the availability of ready buyers who ask few questions. Illicit minerals only generate profit if they can be sold, and a persistent finding across regions is the existence of transit and refining hubs willing, whether through negligence or complicity, to accept minerals of dubious provenance. Investigations have repeatedly identified Gulf and Asian refining centres as key laundering points where illicit and licit minerals are blended before re-entering formal global trade (Just Security, 2026).

2.4 The Mafia-Mining-Terrorism Nexus in Global Perspective

The relationship between mineral extraction, organised crime and terrorism financing is not confined to any single continent, though its intensity and specific form vary considerably by region. Table 3 summarises five major regional configurations.

Table 3. Regional Configurations of the Mining-Mafia-Terrorism Nexus

Region	Dominant Minerals	Principal Armed/Criminal Actors	Nexus to Terrorism or Insurgency

African Great Lakes (DRC, Rwanda, Uganda)	Coltan (tantalum), tin, tungsten, gold	AFC/M23 coalition; PARECO-FF and other militia successors	Direct territorial taxation and control of mine sites funds a parallel armed administration; UN- and Treasury-documented smuggling through Rwanda (US Embassy Kinshasa, 2025; GAO, 2024)
Sahel (Mali, Burkina Faso, Niger)	Gold	JNIM (Jama'at Nusrat al-Islam wal Muslimeen); Islamic State Sahel Province (ISGS); Wagner-linked paramilitary networks	Designated terrorist organisations tax and, in places, directly operate artisanal gold sites to fund fighters and weapons; state-linked paramilitary actors extract gold as payment for security services (Global South Forum, 2025; Just Security, 2026)
North-west and central Nigeria	Gold, lithium, tin	Armed "bandit" syndicates; elite-sponsored guard networks that have become autonomous	Bandit groups fund arms procurement and expand recruitment through gold proceeds; officially linked by Nigeria's counter-terrorism authorities to arms trafficking and cross-border smuggling networks (Gulf Times, 2026; TRT Afrika, 2025)
Latin America (Peru, Colombia, Venezuela, Mexico)	Gold	Successor and dissident FARC factions; ELN; Mexican cartels (e.g., CJNG)	Illegal gold mining has in several jurisdictions overtaken cocaine trafficking as a revenue source for armed groups because it is harder to interdict and easier to launder through legal export channels
Southeast Asia (Myanmar)	Rare earths, tin, jade	Ethnic armed organisations; military-linked militias; Chinese-linked mining enterprises operating with military tolerance	Resource rents fund both non-state armed factions and elements of the state security apparatus, complicating any clean distinction between "criminal" and "state" actors (UNICRI, 2025; Global Initiative, 2026)

Two cross-cutting patterns are visible across these otherwise distinct regional configurations. The first is that gold, more than any other mineral, has become the preferred financing commodity for armed and terrorist groups worldwide, precisely because it is difficult to trace once melted and because it retains value across borders and currencies; sanctions bodies in the United States, the European Union and the United Kingdom all intensified gold-related sanctions activity through 2024 and 2025, targeting jurisdictions including Zimbabwe, Venezuela, Nicaragua, eastern DRC and networks linked to Russia's war effort (Just Security, 2026). The second is that no region's illicit mineral trade functions in isolation: at every stage, laundering depends on international refining, trading and financial hubs located far outside the conflict zones themselves, a fact that reframes what looks like a series of local African, Sahelian or Latin American security problems as, in reality, a single interconnected global market failure.

2.5 The Emergence of a New Mafia Architecture: Cult Initiation as a Membership Requirement

The most organisationally novel development documented in recent reporting on mining-sector organised crime is the incorporation of cult-style initiation rites, oath-taking ceremonies, blood covenants and secret-society hierarchies, into the recruitment and internal governance of criminal groups operating in and around mine sites. This phenomenon is most extensively documented in Nigeria, where campus- and street-based secret cults (sometimes termed "confraternities") have historically operated as urban criminal fraternities bound by initiation rites, coded language and oaths of silence, and where investigative and scholarly accounts increasingly describe overlap between these structures and the armed groups profiting from illegal mining in states such as Zamfara, Katsina, Niger and Kebbi (ThisNigeria, 2026; Small Wars & Insurgencies, 2026). While the empirical literature on this specific overlap remains at an early stage, and firm causal claims should be treated cautiously, the structural logic of why criminal organisations operating in remote, high-value, low-oversight mining environments would adopt cult-style membership architecture is well supported by the broader organised-crime literature on classical mafia "omertà" codes and by the sociology of secret societies more generally.

Four organisational functions explain why cult-style initiation is an attractive human-resource technology for mining mafias, and why it appears to be spreading rather than receding.

- Discipline and secrecy: ritual oaths, often invoking supernatural or spiritual sanction, are a low-cost way of deterring informants and enforcing obedience in environments where formal contracts, courts and policing are unavailable or actively hostile to the organisation.
- Identity and belonging: cult initiation offers marginalised, often unemployed young men a sense of status, brotherhood and protection that absent or predatory state institutions fail to provide, making recruitment easier in regions of acute youth unemployment.

- Labour control: initiation rites function similarly to debt bondage, binding recruits to the group through fear of spiritual or violent retribution and thereby restricting their ability to exit, report abuses, or seek alternative livelihoods.

Cross-border and cross-sector franchising: because cult structures are portable social technologies rather than fixed territorial organisations, "confraternity" cells can replicate rapidly across regions and can link urban or campus-based criminal networks directly to rural mine-site labour and enforcement pipelines.

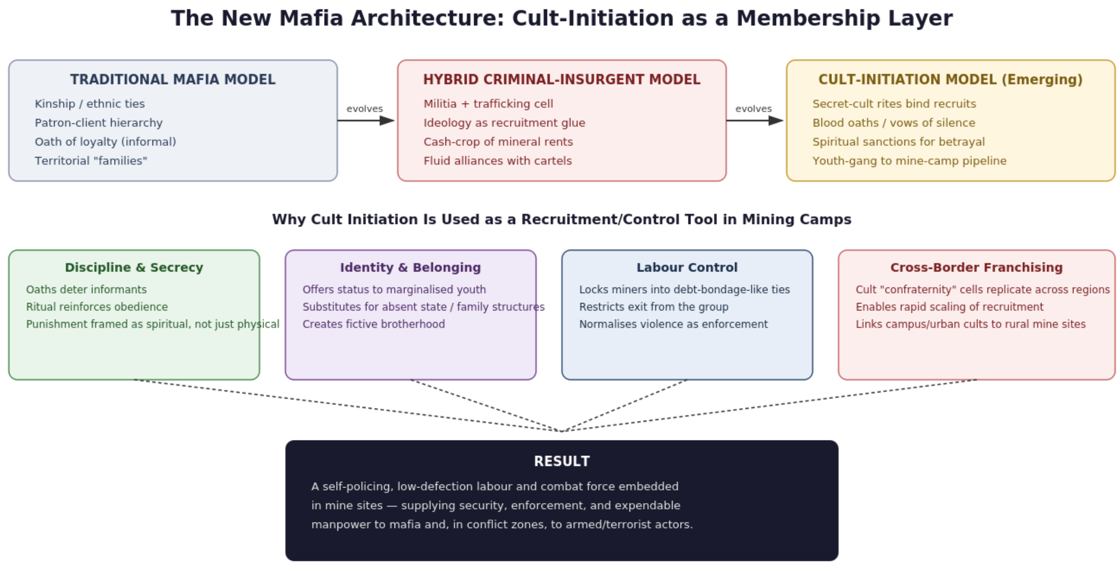

Figure 2. The new mafia architecture: how cult-style initiation functions as an evolutionary layer added to classical and hybrid criminal-insurgent organisational models, and the mechanisms through which it produces a self-policing, low-defection labour and enforcement force in mining camps.

This development should be read as part of a broader global pattern rather than a Nigeria-specific curiosity. Comparable dynamics, differently labelled, recur wherever criminal groups operate in remote extractive frontiers: Latin American cartels are documented using religious syncretism (including venerated folk-saint iconography) to bind fighters and smugglers; Sahelian jihadist-criminal hybrids fuse religious ideology with the material incentives of gold-site taxation, so that recruitment is simultaneously a spiritual and an economic transaction; and militia recruitment in the eastern DRC has long drawn on customary and spiritual authority structures, including belief in ritual protection against bullets, to secure fighter loyalty. What is distinctive about the Nigerian mining-belt case is the explicit, documented transplantation of urban campus-cult initiation architecture, complete with its blood-oath rites and secrecy codes, directly into rural mining-camp labour recruitment, effectively industrialising a criminal human-resource technology that previously operated mainly in universities and cities and applying it to the governance of an extractive commodity chain (ThisNigeria, 2026).

The policy implication is significant. Interventions premised solely on formal economic incentives, licensing reform, alternative livelihoods, and improved market access, while necessary, are unlikely by themselves to break loyalty structures that are enforced through ritual and spiritual sanction. Effective responses will need to engage religious and community leaders, invest in credible exit and rehabilitation pathways for members seeking to leave, and treat cult-based recruitment into criminal mining labour as a distinct, named risk factor within broader anti-organised-crime and counter-terrorism strategy, rather than folding it indiscriminately into generic "youth radicalisation" programming.

The pathway from an artisanal mine pit to a functioning insurgent or terrorist campaign runs through a fairly consistent set of financial mechanisms, summarised in Table 4. Understanding these mechanisms is a precondition for designing effective interdiction, since policy responses aimed at only one stage of the chain, for example import bans that target only the final buyer, have repeatedly proven insufficient on their own (GAO, 2024).

Table 4. Mechanisms Linking Mineral Rents to Armed-Group and Terrorist Financing

Mechanism	Description	Illustrative Case
Direct site taxation	Armed group physically controls a mine site and levies a fee per miner, per bag, or per unit of output	AFC/M23 taxation of Rubaya coltan production, DRC
Trade-route "tollbooth" taxation	Group does not control the mine itself but taxes transport of minerals through territory it controls	JNIM and ISGS taxation of gold-transport routes across the Sahel tri-border area
Front-company laundering	Proceeds are passed through legitimate-seeming trading or export companies to disguise origin before entering formal markets	Inflated official production figures used to disguise re-exported Congolese minerals as domestic Rwandan output
Payment-in-kind arrangements	A state or state-linked actor receives mining concessions or a share of output directly in exchange for security or political services rendered	Wagner-linked gold concessions granted in exchange for paramilitary support in Mali and the Central African Republic
Complicit refining and certification	Refiners or industry certification schemes fail, whether through negligence or corruption, to exclude minerals of illicit origin from the formal supply chain	2024 suspension of the ITSCI traceability scheme after evidence of fraud; UAE refinery due-diligence failures resulting in the suspension of thirty-two refineries in 2023-2024

A further complication for policymakers is that sanctions and disclosure regimes, however well designed, interact with a highly adaptive adversary. The United States Government Accountability Office concluded in 2024 that a decade of mandatory conflict-minerals disclosure under Section 1502 of the Dodd-Frank Act had not measurably reduced violence in the eastern DRC, largely because armed groups shifted their focus toward gold, which is inherently harder to trace than tin, tantalum or tungsten once it has been smelted (GAO, 2024). This illustrates a general principle relevant well beyond the DRC: single-mineral or single-instrument interventions tend to displace rather than eliminate illicit financing, and policy design must anticipate substitution effects across mineral types, trade routes and laundering jurisdictions.

2.6 Human, Economic and Environmental Consequences

The costs of mafia capture of the mining sector extend well beyond the security domain narrowly defined. Communities living around captured mine sites routinely experience forced and child labour, sexual and gender-based violence, and predatory "taxation" that functions as an informal parallel state (US Embassy Kinshasa, 2025). In Nigeria's Zamfara State alone, researchers have documented that armed bandit groups linked to illegal gold mining have destroyed over one hundred villages and displaced tens of thousands of people, with more than five thousand people killed in the state over a five-year period (ENACT Africa, 2020; The Habibat Project, 2024). Environmental costs compound the human toll: unregulated artisanal gold processing frequently relies on mercury and other toxic agents, and Zamfara's gold rush has been directly linked to one of the deadliest cases of environmental lead poisoning recorded in recent decades (The Habibat Project, 2024). Economically, host states are denied billions in potential tax and royalty revenue that is instead diverted into criminal enterprise, arms procurement and further recruitment, entrenching precisely the governance weaknesses that allowed capture to occur in the first place (ThisNigeria, 2026).

2.7 Toward A Global Policy Response

No single instrument is capable of resolving a problem that spans local labour markets, national mining law, regional smuggling corridors and global refining and financial systems. A coherent response requires coordinated action at four levels, summarised in Table 5.

Table 5. A Multi-Level Policy Framework for Addressing the Mining-Mafia-Terrorism Nexus

Level	Priority Interventions
Community / local	Formalise and support artisanal miners through simplified licensing, fair market access and credit, reducing dependence on armed "protection"; invest in community-based intelligence gathering; build credible, safe exit and rehabilitation pathways for individuals seeking to leave cult-bound criminal groups

National	Strengthen mining-site policing and inter-agency coordination between mining, security and immigration authorities; reform mineral-rights frameworks that concentrate ownership in central government without corresponding investment in enforcement capacity; prosecute elite sponsors of illegal mining, not only low-level miners and bandits
Regional	Harmonise cross-border mineral-tracking systems; establish joint task forces along known smuggling corridors; support regional peace and economic-integration frameworks, such as the 2025 DRC-Rwanda agreement, that explicitly address mineral supply-chain transparency
Global	Extend and enforce due-diligence obligations beyond the traditional "3TG" minerals (tin, tantalum, tungsten, gold) to cobalt, copper, lithium and rare earths; strengthen independent, audited certification schemes following the collapse of industry self-regulation in cases such as ITSCI; expand targeted sanctions against refiners, traders and paramilitary financiers rather than relying solely on downstream corporate disclosure

A recurring lesson from the case evidence reviewed in this article is that punitive interventions aimed narrowly at artisanal miners themselves, including outright mining bans, have repeatedly proven counterproductive: bans in Zamfara and elsewhere have failed to durably reduce banditry while stripping legitimate livelihoods from ordinary miners, in some cases pushing them further into dependence on armed actors for survival (Gulf Times, 2026; TRT Afrika, 2025). Sustainable responses must instead target the elites, intermediaries and international buyers who capture the greatest share of illicit value while facing the least risk.

3. Methodology

This study adopts a qualitative, desk-based documentary research design, structured as a systematic thematic synthesis rather than a primary field investigation. Given the clandestine nature of mafia-mining operations and the physical inaccessibility and insecurity of most of the sites discussed, direct field data collection was neither feasible nor safe within the scope of this study. Documentary synthesis was therefore selected as the most appropriate design, consistent with established practice in organised-crime and conflict-financing research, where investigative reporting, sanctions documentation and multilateral monitoring frequently outpace peer-reviewed field research in currency and geographic coverage. Data were drawn from four categories of secondary source, selected to triangulate across institutional, journalistic and scholarly perspectives:

i. Intergovernmental and multilateral reporting, including United Nations Group of Experts reports, sanctions designations, and industry due-diligence guidance (e.g., UNICRI, Global Initiative Against Transnational Organized Crime);

ii. National government and law-enforcement statements, including United States Treasury, State Department and Government Accountability Office materials, and equivalent African and Latin American government sources;

iii. Peer-reviewed and grey-literature academic research on artisanal and small-scale mining (ASM), banditry, and organised crime (e.g., Small Wars & Insurgencies, The Conversation); and

iv. Investigative journalism, retained as a primary evidentiary category, not merely background colour, because it remains, for many of the most opaque mining zones, the most current and operationally granular source available.

Sources were included where they (a) documented a verifiable link between a named armed, criminal or paramilitary actor and a specific mineral, mine site, or trading route; (b) were published or substantively updated between 2019 and 2026, with priority given to material from 2023–2026 given the pace of change in this field; and (c) originated from an identifiable institutional or editorial source permitting basic credibility assessment. Sources making unverifiable or single-sourced claims of a highly sensitive nature (for example, specific ritual practices) were retained only where corroborated by at least one independent account, and are flagged in the text as provisional rather than settled findings.

Three analytical procedures were applied to the assembled material. First, typological classification was used to sort mafia actors into the five organisational forms presented in Table 1, based on the four defining criteria of durable organisational identity, territorial control, routine use of violence, and internal reproduction mechanisms. Second, stage-based process tracing was used to reconstruct the operational sequence common to mafia-mining engagement, territorial capture, extraction and taxation, smuggling and laundering, and reinvestment, summarised in Table 2 and Figure 1. Third, cross-case regional comparison was used to identify convergences and divergences across the African Great Lakes, the Sahel, Nigeria, Latin America and Southeast Asia (Table 3), allowing the study to distinguish genuinely global patterns from region-specific idiosyncrasies.

4. Results and Findings

4.1 A Fluid Rather Than Fixed Typology of Actors

The typological analysis (Table 1) found that mafia involvement in solid mineral extraction does not correspond to a single organisational model but spans five recurring forms: classical organised-crime families, hybrid criminal-insurgent groups, elite-bandit collusion networks, state-linked paramilitary trading networks, and transnational laundering intermediaries. A key finding is that these categories function as roles rather than fixed identities: the evidence repeatedly showed groups migrating between categories over time, most notably in north-west Nigeria, where elite-hired mine-site guards evolved into autonomous predatory bandit networks (The Conversation, 2025; Naijiant, 2025). This fluidity suggests that policy responses targeting a single organisational type are likely to be evaded through re-categorisation rather than eliminated.

4.2 A Consistent Four-Stage Operational Sequence

Across all regions examined, mafia engagement with mining followed a consistent four-stage sequence, territorial capture, extraction and illegal taxation, smuggling and laundering, and reinvestment (Table 2; Figure 1), regardless of whether the controlling actor was a criminal syndicate, an insurgent coalition, or a state-tolerated paramilitary network. The clearest illustration is the AFC/M23 coalition's April 2024 seizure of Rubaya, a site supplying an estimated fifteen to thirty percent of global coltan production, followed by systematic taxation, smuggling through Rwanda, and reinvestment in weapons and territorial administration (Global Initiative, 2026; Global South Forum, 2025). The consistency of this sequence across otherwise unrelated regions and actor types indicates that it reflects a structural logic of the illicit minerals trade itself, rather than the strategy of any single group.

4.3 Gold as the Dominant Financing Commodity

A central finding is the disproportionate role of gold, relative to tin, tantalum, tungsten and other minerals, in financing armed and terrorist actors globally. Gold's resistance to metallurgical tracing once smelted was found to substantially blunt the effectiveness of supply-chain disclosure regimes: the US Government Accountability Office found that a decade of mandated Dodd-Frank disclosure had not measurably reduced violence in eastern DRC, in part because armed groups shifted their revenue focus toward gold as other minerals came under stricter scrutiny (GAO, 2024). This finding was corroborated across regions, from Sahelian JNIM and ISGS gold-site taxation to Wagner-linked gold concessions in Mali and the Central African Republic (Just Security, 2026).

4.4 Six Structural Vulnerabilities Common Across Regions

The analysis identified six recurring structural conditions that enable mafia capture of mining zones: spatial remoteness and weak state presence; the informality of artisanal and small-scale mining; the high value-to-weight ratio of target minerals; elite complicity and corruption; global demand outpacing regulatory capacity; and the availability of transit and refining hubs willing to accept minerals of dubious provenance. These six factors were found to co-occur consistently in every case examined, suggesting they function jointly as necessary, though not individually sufficient, conditions for large-scale criminal capture of a mining sector.

4.5 Certification and Disclosure Regimes Are Being Actively Circumvented

The study found direct evidence that formal governance instruments intended to interrupt this trade are being systematically compromised rather than merely evaded. The industry-run ITSCI traceability scheme was suspended by the Responsible Minerals Initiative in 2024 following evidence of serious fraud, yet many downstream companies continued to accept its documentation as proof of responsible sourcing (Genocide Watch, 2025). Similarly, the United Arab Emirates was found to have suspended thirty-two gold refineries for compliance violations in a single enforcement cycle, indicating that laundering points are not confined to conflict-adjacent jurisdictions but extend into major global trading hubs (Just Security, 2026).

4.6 Emergence of Cult-Initiation as an Organisational Innovation

The most novel finding of the study concerns the incorporation of cult-style initiation rites, oath-taking, blood covenants and secret-society hierarchies, into the membership and labour-discipline architecture of mining-sector criminal groups, most extensively documented in Nigeria's north-western mining belt (ThisNigeria, 2026; Small Wars & Insurgencies, 2026). Four organisational functions were identified as explaining this innovation's spread: discipline and secrecy enforced through spiritual sanction; the provision of identity and belonging to marginalised youth; labour control functioning similarly to debt bondage; and cross-border franchising of portable "confraternity" cell structures (Figure 2). This finding should be read as provisional given the early stage of the underlying empirical literature, but the consistency of comparable ritual-binding mechanisms in unrelated regions, including religious syncretism among Latin American cartel operatives and belief-based fighter-loyalty practices in eastern DRC militias, indicates that Nigeria's case may exemplify a broader, still under-documented global pattern rather than representing an isolated phenomenon.

9.7 A Single Interconnected Global Market Failure

Finally, the regional comparison (Table 3) found that no region's illicit mineral trade operates in isolation: laundering at every stage depends on international refining, trading and financial hubs located far outside the conflict zones themselves. This finding supports reframing the mining-mafia-terrorism nexus not as a set of discrete regional security problems but as a single, adaptive, globally networked illicit economy connecting artisanal mine pits directly to global consumer and defence supply chains.

5. Conclusion

Solid mineral extraction has become, in large and growing parts of the world, an integral line of business for organised crime broadly defined, encompassing classical mafia-style families, hybrid criminal-insurgent formations, elite-bandit collusion networks and state-tolerated paramilitary trading operations. These actors capture mine sites through violence, extract rents through illegal taxation and forced labour, launder mineral value through porous borders and complicit intermediaries, and reinvest the proceeds in weapons, fighters and further territorial expansion, in a growing number of documented cases directly or indirectly sustaining organisations designated as terrorist. The emergence of cult-style initiation as a membership and labour-discipline requirement within mining-sector criminal groups represents a genuinely novel organisational adaptation, one that deserves far more sustained empirical attention than it has so far received, because it suggests that mafia-style discipline is becoming cheaper, more portable and harder to break through conventional economic or security interventions alone. Addressing the mining-mafia-terrorism nexus will require policymakers to treat it as what it is: not a series of disconnected regional security problems, but a single, adaptive, globally networked illicit economy that connects an artisanal miner's pit in Zamfara or North Kivu to a refinery counter in the Gulf and, ultimately, to a consumer electronics supply chain on the other side of the world.

6. Recommendations

The following recommendations are proposed in the study;

Target the top of the value chain, not just the bottom. Prosecute and sanction the elites, traders, and refiners who capture the largest share of illicit mineral value, rather than concentrating enforcement on artisanal miners and low-level bandits who have the least capacity to absorb the cost.

Formalise artisanal mining instead of banning it. Simplified licensing, fair market access, and micro-credit reduce miners' dependence on armed "protection," addressing the root vulnerability rather than displacing it.

Extend due diligence beyond 3TG. Traceability and certification obligations should cover cobalt, lithium, copper, and rare earths, closing the substitution loophole that let gold absorb demand once tin, tantalum, and tungsten came under scrutiny.

Rebuild credible certification. Independent, audited verification is needed to replace self-regulated schemes such as ITSCI, whose collapse showed the limits of industry-run oversight.

Treat cult-based recruitment as a named risk factor. Counter-organised-crime and counter-terrorism programming should engage religious and community leaders and fund genuine exit/rehabilitation pathways, since ritual-bound loyalty structures will not respond to economic incentives alone.

Coordinate regionally and globally. Cross-border mineral-tracking systems, joint task forces along known smuggling corridors, and expanded sanctions on refiners and financiers are needed, since no single state can interdict a supply chain that ends in a refinery thousands of miles from the mine

Article Publication Details
This article is published in the **International Journal of Economics, Business & Sustainable Management**, ISSN 3139-0919 (Online). In Volume 2 Issue 3 (July – Sep) 2026
The journal is published and managed by **IRPG**.

Acknowledgements
We sincerely thank the editors and the reviewers for their valuable suggestions on this paper.

Funding
The authors declare that no funding was received for this work.

Data availability
No datasets were generated or analyzed during the current study.

Declarations

Ethics approval and consent to participate
The author(s) declare that it is not applicable.

Consent for publication
The author(s) declare that this is not applicable.

Competing interests
The author(s) declare that they have no competing interests.

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