How Resource Characteristics Shape Patterns of Conflict

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Resource-related conflicts are often treated as a single phenomenon, yet they vary enormously in form. Some centre on capturing state power, others sustain decentralised armed groups for decades. This article argues that these differences are not incidental but structural, shaped by the physical and economic characteristics of the resources involved. Drawing on the cases of South Sudan, Nigeria, and the Democratic Republic of Congo, it shows that the geographic distribution of resources and the conditions required for their extraction determine who can access resource wealth and what conflict strategies become viable (Le Billon, 2004; Ross, 2001). The article proceeds in four steps. It first critically evaluates the resource curse literature and its limitations as a framework for understanding conflict variation. It then analyses how concentrated resources such as oil generate state-centred conflict, while diffuse and accessible resources enable decentralised armed mobilisation. Finally, it provides targeted policy recommendations for each conflict type, arguing that revenue-sharing and institutional reform are most relevant where oil dominates government revenues, while supply chain regulation and artisanal mining formalisation are needed where resources are dispersed and lootable.

The Resource Curse and the Limits of Existing Explanations

Research on natural resources and political instability has often been framed through the concept of the "resource curse." The term was popularised by Auty (1993) and later developed in empirical work by Sachs and Warner (1995), referring to the tendency for states heavily dependent on natural resource exports to experience weaker economic growth and poorer governance outcomes than resource-scarce countries (Badeeb et al., 2017). This research challenged earlier assumptions that resource wealth would naturally support development through export revenues and state investment. Subsequent work expanded the debate by examining the broader political and institutional consequences of resource dependence, particularly in states where oil, gas, or mineral

extraction generates a large share of government
income. This section critically evaluates the resource curse framework before identifying its limitations as a basis for understanding conflict variation, limitations that, as this article later argues, have direct consequences for how policy responses to resource-related violence should be designed.

Several mechanisms have been proposed to explain the relationship between resource wealth and poor political outcomes. Economic accounts often focus on Dutch Disease - the process by which resource booms drive currency appreciation and draw investment away from other productive sectors, hollowing out manufacturing and agriculture over time (Corden & Neary, 1982) - and commodity price volatility, which creates unstable and unpredictable government revenues that undermine long-term planning and fiscal discipline (Badeeb et al., 2017; Karl, 1997; Humphreys, 2005). Political explanations emphasise how large resource rents, that is, the surplus revenues generated above and beyond production costs, shape incentives within the state. Ross (2001) argues that governments reliant on resource revenues face weaker accountability pressures because they depend less on taxation, reducing citizens' leverage over state behaviour. Collier and Hoeffler (2004) link resource wealth to increased civil conflict risk, arguing that resource rents provide both the motive and the means for armed mobilisation. Together, these mechanisms suggest that resource wealth interacts with institutional weakness to heighten conflict risk. However, they do not explain why conflict takes such different forms across cases, a limitation the following paragraphs address directly.

While influential, the resource curse literature provides only a partial account of how natural resources shape conflict, principally because it treats all resources as a single undifferentiated category (Badeeb et al., 2017). This makes it difficult to explain why conflicts vary so widely across cases and why some produce centralised struggles for state power while others sustain decentralised armed insurgencies. As Le Billon (2004) argues, the political effects of resources depend heavily on their geographic distribution and the technical conditions required for their extraction. Lujala (2010) and Snyder (2006) develop this point further, showing that resource location and lootability, the ease with which resources can be seized and sold without state involvement, systematically shape who can access resource wealth and what conflict strategies become viable. These characteristics influence what strategies are available to political and

armed actors, differences that the following section examines in detail and which, as this article ultimately argues, require differentiated rather than uniform policy responses.

Resource Characteristics and Conflict Dynamics

Natural resources differ significantly in their geographic distribution and the technical conditions required for their extraction, and these differences systematically shape who can control resource wealth and how it becomes a source of political competition (Le Billon, 2004; Ross, 2001). Concentrated resources like oil require substantial capital investment and infrastructure, meaning production is organised through state institutions or large corporations (Ross, 2001). Dispersed resources, including certain minerals and alluvial deposits, can be extracted using basic equipment with low barriers to entry (Le Billon, 2004; Lujala et al., 2005). These contrasting characteristics determine which actors can access resource wealth and what strategies are available during political instability, producing systematically different conflict patterns that require different policy responses.

Where oil dominates government revenues, political authority and resource wealth become structurally inseparable - competition for state power is simultaneously competition for the country's most valuable asset (Le Billon, 2004; Ross, 2001). Revenues flow through state institutions as resource rents (surplus income above production costs) making state control the only viable route to oil wealth (Ross, 2001). This intensifies political competition, particularly in "grabber-friendly" institutional settings which are characterised by weak rule of law, captured judicial institutions, and patronage-based political systems, where loyalty is secured through selective material rewards rather than policy and where elites can capture rents with limited accountability (Mehlum et al., 2006; Badeeb et al., 2017). The structural consequence is that concentrated energy resources generate state-centred conflict, a pattern South Sudan illustrates clearly. At independence, oil accounted for approximately 98% of government revenue (Cust & Harding, 2013), making violent competition for state power structurally inevitable (Ross, 2001; Rolandsen, 2015). This shaped the 2013 civil war directly: opposition forces targeted oil infrastructure to deny the government revenues needed to pay its army and sustain political coalitions (de Waal, 2014). South Sudan confirms that it is oil's concentration and infrastructural dependence, not resource wealth per se, that produces state-centred conflict, with direct

implications for the revenue management and institutional reform policies this article later recommends.

Resource geography can further shift conflict from struggles over state power towards secessionist confrontation (Le Billon, 2004). Where producing regions bear the environmental and social costs of extraction while revenues flow disproportionately to a distant political centre, structural grievances accumulate that incentivise territorial rather than state-centred mobilisation (Watts, 2004). Nigeria illustrates this directly: as oil production concentrated in the Niger Delta, federal allocation mechanisms channelled that wealth towards the central government rather than producing communities, creating a legitimacy crisis in which the region generating the country's primary revenue source received little in return. This fuelled the Biafran secessionist conflict of 1967–1970, in which control over oil-producing territory, rather than the state itself, became the central strategic objective, and has continued driving Niger Delta militancy in subsequent decades (Uche, 2008; Agbaeze et al., 2015). Resource geography therefore shapes not only whether conflict occurs but what form it takes, determining whether revenue-sharing or broader institutional reform is the more appropriate policy response.

Diffuse and accessible resources generate a fundamentally different conflict pattern to concentrated energy resources. Lootability which is the ease with which resources can be seized and sold outside formal state channels, allows armed groups to finance sustained violence without needing to capture state power, instead generating revenue through mine sites, roadblocks, and local trading networks (Ross, 2004; Collier & Hoeffler, 2004). Scholarly evidence consistently supports this. Ross (2004) finds that unlike concentrated resources which incentivise capturing the state, lootable commodities sustain conflict over time by providing armed groups with ongoing independent income, making them associated with conflict duration rather than onset. Snyder and Bhavnani (2005) build on this, demonstrating that whether lootable resources produce violence or order depends specifically on whether rulers can establish institutions that control and tax extraction, where such institutions are absent, as in weakly governed states, armed groups fill the vacuum. Together, these findings suggest that where resources are diffuse and accessible, armed organisations can therefore sustain violence without
winning national power, making these conflicts structurally more durable and harder to resolve through political negotiation alone.

Eastern DRC illustrates this directly. The region's cobalt and 3T minerals - tin, tantalum, and tungsten, widely used in electronics manufacturing - are produced largely through artisanal and small-scale mining: informal extraction by individuals using basic tools across dispersed sites that governments struggle to monitor or regulate (Geenen, 2012; Amnesty International, 2016). This dispersal allows armed groups including M23 to physically seize mine sites and extort miners, demanding payment or a share of output in exchange for permission to continue working, generating independent revenue streams without any need to control the state (UN Security Council, 2022; Ross, 2004). It is therefore the dispersal and accessibility of these resources that enables decentralised, durable violence independent of state capture. These dynamics are intensifying through the global energy transition. As demand for cobalt, lithium, and critical minerals accelerates, UNCTAD (2024) projects lithium demand rising over 1,500% by 2050, governance failures in extraction zones like eastern DRC are becoming embedded in global supply chains, making the regulatory and formalisation policies this article recommends increasingly urgent (IEA, 2025; World Bank, 2023).

Policies for State-Controlled Energy Resources

1. Revenue-Sharing with Producing Regions

Where oil revenues flow through central governments, conflicts often emerge when producing regions bear the costs of extraction while receiving little economic benefit, the structural grievance the Nigeria case illustrated (Le Billon, 2004; Watts, 2004). Revenue-sharing arrangements that allocate a defined proportion of resource income directly to producing regions can reduce these grievances. Le Billon and Nicholls (2007) argue that revenue-sharing arrangements have generally proven more implementable than economic sanctions in resource conflicts, alongside certain forms of military intervention, though they stress that outcomes vary by conflict and resource type. Nigeria illustrates both the potential and the risk: although the 1960 Independence Constitution allocated producing regions 50% of revenues derived from their
mineral resources, successive federal reforms progressively eroded the derivation principle before the 1999 Constitution restored a minimum 13% derivation payment to mineral-producing states, deepening Niger Delta grievances by disrupting the link between extraction and local benefit (Ahmad & Singh, 2003). Indonesia offers a more instructive model: under Aceh's post-conflict

autonomy arrangements, the province retained 70% of oil and gas revenues for a defined period, a policy widely viewed as helping ease separatist tensions (Ross, 2012; Wennmann & Krause, 2009). For revenue-sharing to work, however, it must be constitutionally protected rather than politically reversible, and accompanied by mechanisms ensuring funds reach communities rather than regional elites. Binningsbø and Rustad (2012) caution that wealtha sharing arrangements more broadly have not been shown to reliably sustain postconflict peace, and that poorly designed or implemented policies risk failing to address the underlying causes of conflict, underscoring that the design and entrenchment of revenue-sharing mechanisms matters as much as their adoption.

2. Strengthening Institutions that Manage Resource Revenues

Where oil revenues flow through institutions with no meaningful oversight, rents are distributed through patronage networks rather than public budgets, making control of the state the primary route to economic survival for political and military elites, as South Sudan illustrates (de Waal, 2014; Rolandsen, 2015). Independent fiscal authorities, transparent budget rules, and sovereign wealth funds can limit discretionary elite access to revenues and reduce the incentive for violent competition over state power (Ross, 2012). Norway demonstrates this in practice - its Government Pension Fund deposits all oil revenues into a ring-fenced fund managed independently of government, with parliament permitted to spend only a fixed percentage of returns annually, ensuring oil wealth cannot be directly accessed by whoever holds political office (Holden, 2013). Fragile states cannot replicate this overnight, but independent audit institutions and mandatory public disclosure of revenue flows are achievable first steps that can meaningfully constrain elite capture even in low-capacity environments (Mehlum et al., 2006; Ross, 2012).

Policies for Diffuse and Easily Extractable Resources

3. Regulating Global Mineral Supply Chains

Where armed groups finance violence through direct control of mineral extraction and trade, disrupting the commercial links connecting conflict minerals to global markets is essential (Ross, 2004; Collier & Hoeffler, 2004). Several regulatory frameworks have attempted this: the US Dodd-Frank Act Section 1502 requires companies listed on American exchanges to trace and disclose their use of DRC conflict minerals, while the EU Conflict Minerals Regulation extends comparable due diligence requirements to European importers, and OECD guidance establishes internationally recognised standards for responsible mineral sourcing (OECD, 2016). Evidence on effectiveness

is mixed, however — GAO (2024) found no empirical evidence that Dodd-Frank reduced violence in eastern DRC, and found the rule was associated with a spread of violence around informal gold mining sites, as armed groups shifted towards more portable and less traceable minerals. Meaningful regulation therefore needs to go beyond disclosure - tracking minerals across borders, sanctioning traders who knowingly buy from armed groups, and coordinating enforcement between states are all necessary if the link between extraction and conflict financing is to be broken (OECD, 2016; IEA, 2025).

4. Formalisation of Artisanal Mining

Armed groups sustain themselves by controlling informal mine sites, so bringing artisanal mining under state oversight directly targets the revenue streams that make conflicts like eastern DRC so persistent (Geenen, 2012). Licensing miners, establishing transparent pricing, and maintaining state presence at mine sites can gradually displace armed group control with legitimate authority (Calvão et al., 2021). Design matters significantly, however. Geenen (2012) shows that top-down formalisation in eastern DRC disrupted local livelihoods without producing workable institutions, while Calvão et al. (2021) find that corporate-led models tend to push risk onto miners and worsen insecurity where labour protections are weak. Rather than imposing licensing from the top down, effective formalisation requires case-by-case community engagement, the provision of start-up capital and basic equipment to miners lacking resources to participate in formal structures, and pricing transparency along the value chain to ensure miners receive fair returns rather than surrendering production to armed actors (OECD/United Nations, 2023). As cobalt and 3T demand grows through the energy transition, these conditions become harder to meet but no less necessary.

Conclusion

The relationship between natural resources and conflict cannot be fully understood through broad explanations such as the resource curse alone. As this article has shown, the characteristics of specific resources, particularly their geographic distribution and the conditions required for extraction, play a critical role in shaping patterns of violence. Where resources are concentrated and flow through state institutions, as in South Sudan, competition for political power and competition for resource wealth become inseparable, producing state-centred conflicts. Where resources are dispersed and accessible, as in eastern DRC, armed groups can sustain themselves independently of state power, producing conflicts that are structurally more durable and harder to

resolve. Nigeria illustrates a further dimension, that even where resources are concentrated, their geographic location can shift conflict towards secessionism rather than outright state capture. These differences have important implications for policy. Revenue-sharing and stronger fiscal institutions address the structural incentives driving state-centred conflict, while supply chain regulation and artisanal mining formalisation target the revenue streams sustaining decentralised violence. As global demand for critical minerals continues to grow through the energy transition, recognising how resource characteristics shape conflict will remain essential for developing effective and targeted policy responses.

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