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Critical Minerals and Resource Governance: Insights from the World Bank Worldwide Governance Indicators

Shivani, Anannya Das Banerjee, Aditya Ramji

Critical minerals governance is shaped by complex and layered institutions that vary widely across and within countries. The global race for lithium and other transition minerals also rests on how effectively these resources are governed. As sourcing shifts across geographies with demand-supply diversification, geopolitical alignment, or resource nationalism, the questions of governance become central to both investment decisions and ethical responsibility. We identify how governance frameworks across lithium-producing countries shape extractive outcomes, community impacts, and long-term sustainability. Three core lessons emerge from this inquiry:

- **Governance is highly localized.** Regional and subnational dynamics often shape project outcomes more than national-level frameworks.
- **Legal recognition of rights is necessary but insufficient.** Procedural integrity, access to remedy, and meaningful participation determine how those rights are realized in practice.
- **Governance gaps are not only domestic,** but they are shaped by, and in turn shape international partnerships, corporate conduct, and geopolitical priorities.

This brief assesses resource governance in lithium-producing and emerging producer countries using the World Bank Worldwide Governance Indicators¹ (WGI) to assess governance across six categories: (i) Voice and Accountability; (ii) Political Stability and Absence of Violence; (iii) Government Effectiveness; (iv) Regulatory Quality; (v) Rule of Law; and (vi) Control of Corruption. Each of these indicators has been disaggregated into sub-themes (for instance, in case of voice and accountability, it includes measures on democratic participation of mining communities, freedom of expression, civil society input, government accountability, and transparency) and analyzed using qualitative country-level evidence. The goal is to unpack a granular, comparative account of governance strengths, gaps, and interlinkages to show how countries perform and why they perform the way they do. This assessment supports policymakers, investors, and civil society actors identifying where governance is strong or weak, how and why those conditions emerge, and what they mean for the future of equitable and just mineral transitions.

1. Introduction

The global lithium supply chain is anchored by a set of countries that play distinct roles across extraction, processing, and end-use manufacturing, yet they sit at very different stages of economic development, industrial progress, and resource capacity (Table 1). High-income economies such as Australia, Canada, the United States, and Chile have stronger institutions and higher per capita

incomes, while upper-middle-income producers like Argentina, Brazil, China, and Namibia are expanding capacity. Lower-middle-income countries, including Bolivia, Nigeria, and Zimbabwe, remain emerging players with limited fiscal and institutional strength to fully leverage their geological resources.

Table 1: Country Profiles in the Global Lithium Supply Chain

Country	Economic Status (2023)	Position in the Lithium Supply Chain	Net Importer / Exporter	GDP per capita, USD (2023)	GDP per capita, USD (2024)
Australia	High Income	Upstream (spodumene extraction)	Net exporter	64,836	64,407
Canada	High Income	Upstream (growing) + Midstream	Mixed	54,220	54,283
USA	High Income	Upstream (limited) + Downstream	Net importer (lithium salts)	82,305	85,810
Chile	High Income	Upstream (brine extraction)	Net exporter	17,067	16,710
Namibia*	Upper Middle Income	Upstream (nascent)	Minor net exporter	4,188	4,413
Argentina	Upper Middle Income	Upstream (brine extraction)	Net exporter	14,187	13,858
China	Upper Middle Income	Midstream + Downstream	Net importer (raw), exporter (processed)	12,951	13,303
Brazil	Upper Middle Income	Upstream + Midstream (pilot)	Net exporter (growing)	10,378	10,280
Bolivia	Lower Middle Income	Upstream (undeveloped brine)	No major trade yet	3,686	4,001
Nigeria	Lower Middle Income	Upstream (nascent)	Net exporter (small scale)	1,597	807
Zimbabwe	Lower Middle Income	Upstream (spodumene)	Net exporter	2,156	2,656
India	Lower Middle Income	Downstream (battery assembly)	Net importer	2,530	2,697

Source: Compilation from country-wise critical minerals strategies, ITS-UC Davis (2025), World Bank (2024)

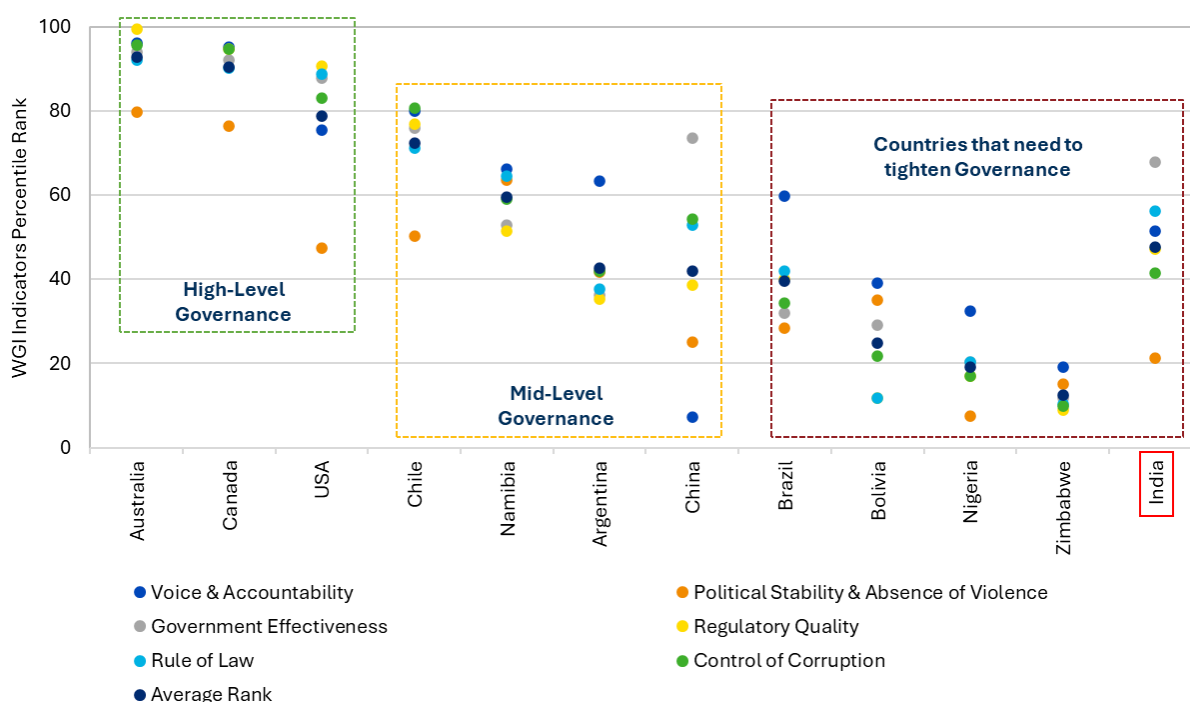
*According to the World Bank's annual income classification, Namibia was re-classified from upper-middle income to lower-middle income effective by 01 July 2025, measured using Atlas method. This downgrade was due to a decline in Gross National Income (GNI) per capita; because of slow GDP growth from 4.4% in 2023 to 3.7% in 2024 with a contraction in mining exports, and significant upward population revisions².

The credibility and risks of lithium supply chains are determined by governance, by how states distribute authority, uphold legal recourse, and how conflicts are handled (Figure 1). To better

understand governance frameworks, it is equally important to assess the diverse economic profiles that these countries represent and their positions within the global lithium value chain.

Australia, Chile, and Argentina dominate the upstream segment with abundant reserves and high export volumes³, while China leads globally in refining, accounting for 60-70% of processing capacity⁴. The U.S. and Canada are more active downstream, with significant investments in battery and EV manufacturing, though Canada is also expanding its upstream footprint. Among upper-middle-income economies, Argentina, Brazil, and Namibia are expanding upstream production but face institutional and infrastructural gaps, while China combines industrial scale with highly centralized governance. Lower-middle-income countries such as Bolivia, Nigeria, and Zimbabwe are emerging suppliers and struggle with political volatility, weak institutions, and limited technical capacity.

Figure 1: Worldwide Governance Indicator Scores for Lithium-producing Countries & India



Source: Adopted from Upstream Lithium Sourcing Strategies in India, ITS-UC Davis (2025) based on World Bank WGI (2023)
 *Based on the six indicators, India sits within the mid-level governance category, highlighting scope for strengthening institutional structures.

When examined across the six indicators, countries like Australia, Canada, and the U.S. anchor their mineral sectors in stable legal systems, high transparency, and multi-level oversight. Chile and Namibia show institutional ambition but face pressure from environmental challenges and regulatory asymmetries. Brazil and Argentina show institutional dualities where formal protections exist, but enforcement is vulnerable to political flux. At the margins, countries like Bolivia, Nigeria, Zimbabwe, and China expose the structural fragilities of top-down governance, legal opacity, and exclusionary decision-making. These governance profiles shape who benefits, who bears the cost, and what kind of transition is being built in the critical minerals supply chains. Table 2 presents this

comparative governance assessment of twelve lithium-relevant countries across six key dimensions.

India occupies a unique transitional position: currently a net importer of lithium raw materials and battery-grade compounds, but with inferred reserves in Jammu & Kashmir, active bilateral partnerships, and large-scale battery manufacturing initiatives under the Production Linked Incentive (PLI) scheme, it is seeking to expand upstream and midstream. When compared along the six indicators, India appears in a transitional position. It is yet to establish a strong hold in the lithium value chain. Although democratic institutions and policy momentum exist (including improvements in legal and regulatory frameworks, especially at the sub-national level), domestic constraints persist in the form of fragmented implementation, opaque licensing, and uneven coordination across levels of government. Moving ahead, progressive policies, greater transparency, faster policy execution and effective benefit-sharing mechanisms could allow India not only to participate but also shape the evolving critical mineral landscape.

Table 2: World Bank Worldwide Governance Indicators Sub-themes

Country	Voice & Accountability (a)				Political Stability & Absence of Violence (b)						Government Effectiveness (c)						Regulatory Quality (d)					Rule of Law (e)			Control of Corruption (f)			Lithium Supply Chain						
	Democratic Participation of Mining Communities	Freedom of Expression, Civil Society Input	Government Accountability - Legal Protection	Transparency	Politically Stable	Local Conflict	Armed Conflict	Federal Conflict / Terrorism	Human Rights Violation	Business Risk	Institutionalized Structure (Long-term Policies)	Acts and Legal Enforcement	Federal Policies	Federal-Subnational Coordination	Federal Funding	Disaggregated Authority over Mines / Hypertocal Governance	Legal Framework	Transparency	Federal Regulation	Local / Subnational Regulatory Implementation	ESG Framework	Long-term Outlook	Predictability	Legal Access / Recourse for Communities	Public & Private Sector Corruption	Breach of Institutional Integrity (e.g., procurement, licensing delays)	Impact of Corruption on Business Environment	Upstream + Domestic market	Existing exports	Export potential or limited export	Global partnerships established	Global partnerships growing	Importing	
Australia	Y	Y	Y	Y	Y	N	N	N	N	N	Y	Y	Y	Y	Y	P	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	P	Y	Y	N
Canada	Y	Y	Y	Y	Y	Y	N	N	N	P	Y	Y	Y	P	Y	Y	Y	Y	P	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	P	Y	Y	Y	P
USA	Y	Y	Y	Y	Y	Y	N	N	P	P	Y	Y	P	P	P	Y	Y	Y	P	P	P	Y	P	Y	P	P	P	P	P	Y	P	Y	Y	Y
Chile	Y	Y	P	P	Y	Y	N	N	P	P	P	Y	Y	P	P	P	P	P	N	N	P	P	P	P	Y	P	P	Y	Y	P	Y	Y	Y	N
Namibia	P	P	P	P	Y	N	N	N	N	P	P	P	Y	P	N	N	P	P	P	N	N	P	P	P	P	P	P	P	Y	N	Y	Y	Y	N
Argentina	P	Y	P	P	P	Y	N	N	P	P	N	P	P	N	N	Y	Y	P	N	Y	P	P	P	P	P	N	P	Y	Y	Y	Y	Y	Y	N
China	N	N	N	N	Y	P	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	P	Y	P	P	Y	P	N	N	N	N	Y	Y	N	Y	N	Y	Y
Brazil	Y	Y	P	P	P	Y	N	N	P	P	P	Y	P	N	P	Y	P	P	P	Y	P	P	P	P	P	P	P	P	P	Y	Y	Y	Y	N
Bolivia	P	P	N	N	P	Y	N	N	P	P	N	N	P	N	N	N	N	N	N	N	N	N	N	N	N	N	N	P	N	Y	Y	Y	Y	N
Nigeria	N	P	N	N	N	Y	Y	Y	Y	Y	N	N	P	N	N	P	P	N	P	N	N	N	P	N	N	N	N	P	P	Y	P	Y	Y	N
Zimbabwe	N	N	N	N	P	Y	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	P	Y	Y	Y	N
India	P	P	P	P	Y	P	Y	Y	P	P	P	P	Y	P	P	N	P	P	P	P	N	P	P	N	P	P	P	N	N	P	Y	Y	Y	Y

Source: Authors Analysis (2025) based on World Bank (2023)

(Y) Yes, clearly present or functionally effective; (P) Partial, exists on paper or in limited form, or unevenly implemented; (N) No, largely absent or restricted or weak

(a) Voice and Accountability measures the extent to which a country’s citizens participate in selecting their government, have the freedom of expression, association, and access to free media⁵. In the context of critical mineral governance, this indicator reflects four sub-themes: democratic participation and the extent to which mining-affected communities influence decision-making, civil society and freedom of expression, governments legal obligation to consult, and transparent processes at the project level.

(b) Political Stability and Absence of Violence reflect perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. This indicator extends to include risks related to local unrest, resource-related violence, and the stability of the legal and regulatory environment affecting both community welfare and business operations⁶. Our assessment disaggregates this into six sub-themes: general political stability, presence of local or regional conflict, threats of armed conflict or terrorism, human rights violations in mining areas, and business risks associated with governance volatility.

(c) Government Effectiveness reflects the quality of public services, the capacity of civil service and policy implementation, and the credibility of the government’s commitment to such policies⁷. This dimension is closely tied to whether governments can design and deliver long-term strategic interventions across geoscience, permitting, industrial policy, and intergovernmental coordination. To operationalize this definition, we assessed six sub-themes: presence of institutionalized long-term policy frameworks, quality of legal and administrative enforcement, clarity of federal policies, federal-subnational coordination, federal funding and resource support, and the degree of disaggregated authority over mining operations.

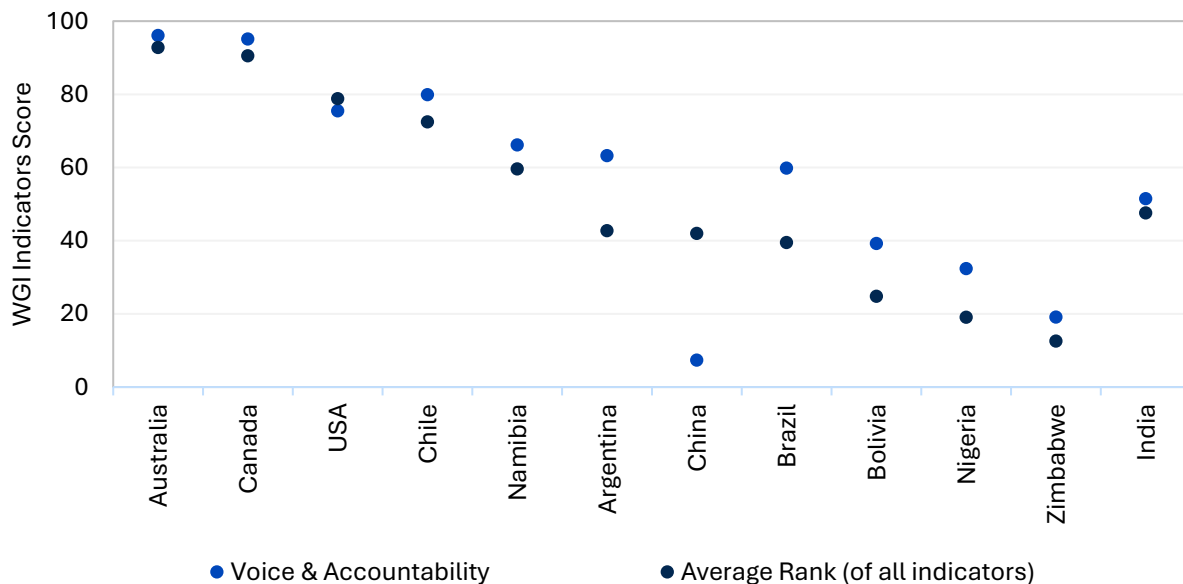
(d) Regulatory Quality measures the government’s ability to formulate and implement sound policies and regulations that permit and promote private sector development⁸. In lithium context, this includes: the existence and stability of the legal framework, the transparency of the regulatory environment, federal and subnational clarity in regulatory mandates, and the presence of enforceable environmental, social, and governance (ESG) norms.

(e) Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence⁹. In the context of critical mineral governance, this includes three sub-themes: long-term outlook of legal regimes, predictability and consistency of rules, and legal access and recourse for communities.

(f) Control of Corruption assesses the extent to which public power is exercised for private gain, and influence accountability mechanisms, the capture of the state by elites and private interests¹⁰. In the critical minerals sector, corruption risks may surface in procurement, permitting, licensing, and export contracts, with direct implications for investor confidence, civil society trust, and environmental compliance. This assessment focuses on three interlinked sub-themes: public and private sector corruption, breach of institutional integrity (e.g., opaque licensing or procurement), and the impact of corruption on the business environment.

2. Voice and Accountability: Rights on paper does not equal participation in practice

Figure 2: Worldwide Governance Indicator Score: Voice & Accountability (2023)



- **High-income democracies institutionalize participatory governance**

In countries like Australia, Canada, and the USA, participatory rights are protected and actively implemented. Australia’s Native Title Act (NTA) 1993 (Cth)¹¹ enables Indigenous land rights, with Western Australia as a leading example in implementing the native title. Canada’s “Duty to Consult”¹² is constitutionally protected, and environmental assessments formally include Indigenous input, although the strength of implementation varies by province. In the U.S., civil society and indigenous communities play an active role in contesting extractive projects, as exemplified by protests and legal challenges around the Thacker Pass lithium project in Nevada^{13,14,15}. These countries reflect strong institutional maturity, legal recourse, and public scrutiny mechanisms.

- **Legal recognition is not equivalent to functional inclusion**

Chile has ratified International Labor Organization (ILO) Convention No. 169, affirming Indigenous consultation rights. Yet in the Salar de Atacama, home to rich-lithium reserves, meaningful engagement remains inconsistent¹⁶. Namibia’s mining legislation includes consultation provisions, but implementation is weak, especially in rural and marginalized regions¹⁷. Argentina shows variability across Provinces. Some jurisdictions (for example, Salinas Grandes and Laguna Guayatayoc in Jujuy^{18,19}) foster strong environmental movements and Indigenous protest, while others (Salar de Olaroz and the Susques community, Jujuy²⁰) lack mechanisms for inclusive decision-making. These cases reveal a critical governance gap between de jure recognition and de facto inclusion.

- **Middle-income countries show localized or contingent voices**

Brazil and India offer examples of partial inclusion and regional disparities. In Brazil, civil society and Indigenous groups in regions like Minas Gerais actively resist extractive projects²¹, but state responses are slow and inconsistent. India's Fifth Schedule and Panchayats Extension to Scheduled Areas (PESA) Act (1996)²² provide constitutional protections for *Adivasi* (indigenous) communities in mineral-rich areas. However, implementation is patchy. In lithium exploration sites such as Karnataka and Jammu & Kashmir, local consultations have been minimal^{23,24}. Bolivia and Nigeria both show signs of controlled participation. Bolivia's Potosí protests against pilot lithium projects reveal frustration over lack of consultation²⁵. In Nigeria, CSOs highlight limited community engagement²⁶, non-transparent licensing in lithium-rich Nasarawa²⁷, and exclusion of artisanal and small-scale miners (ASM) from decision-making²⁸. In these cases, voices exist but are politically contingent and differ geographically.

- **Closed civic spaces restrict participation**

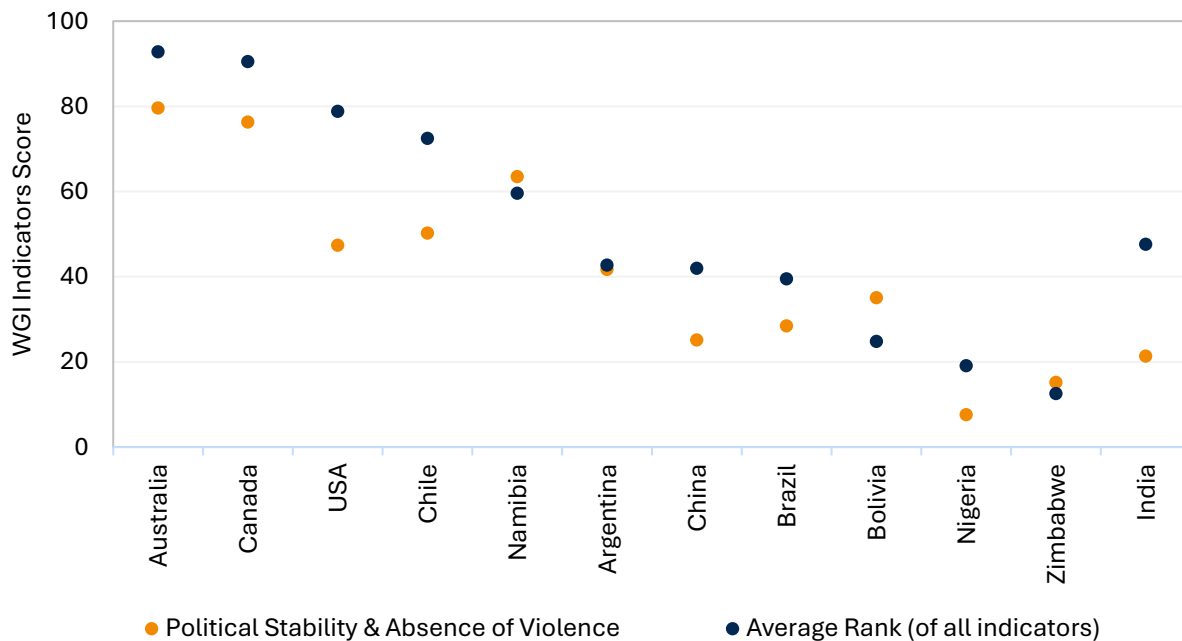
China and Zimbabwe show restricted civic spaces. In China, extractive decisions are made through centralized state planning with no formal channels for Free, Prior, and Informed Consent (FPIC). Local protests against environmental degradation are suppressed, and civil society lacks operational autonomy^{29,30}. Zimbabwe's situation is more acute: local communities near mines face systemic exclusion from licensing or benefit-sharing³¹. Legal frameworks are opaque, and civic expression is tightly curtailed.

- **Voice and accountability measures reveal who can participate meaningfully in extractive decision-making**

This indicator reveals the unevenness in political voice across geographies and communities – who gets to speak and be heard in mineral frontiers and under what terms. Participation is shaped by the intersection of geography, identity, institutional maturity, and political will. Where civil society has legal footing, procedural access, and transparency tools, communities are more likely to influence extractive trajectories. But in many contexts, especially in the Global South, voice is permitted only when it does not challenge the economic rationale of extraction. This selective inclusion is one of the defining tensions in global mineral governance.

3. Political Stability and Absence of Violence: Localized unrest undermines otherwise stable national systems

Figure 3: Worldwide Governance Indicator Score: Political Stability & Absence of Violence (2023)



- **High-income democracies absorb dissent without systemic instability**

Australia and Canada reflect robust political stability at both federal and subnational levels. Australia’s federal structure allows state-level leadership in critical minerals without serious national-level volatility^{32,33}. While some local-level opposition exists in Indigenous communities, it rarely escalates into conflict. Canada exhibits similar dynamics, with high political stability, though localized unrest, for example, protests by First Nations communities around resource-sharing and land rights in Quebec and Ontario, introduces site-specific tensions^{34,35,36}. In both cases, institutional channels absorb dissent, limiting broader risks to investors or communities.

- **The U.S. presents a complex picture between stable institutions and mining politics**

While the federal system remains stable in the U.S., permitting processes and community action (including protests, litigation, campaigns) around mining indicate the fragility of project-level governance^{14,15}. Civil society opposition can delay projects for years, not due to political violence but because of institutional impasse. The fragmented nature of mining oversight can amplify the perception of uncertainty, especially for foreign investors navigating multiple regulatory jurisdictions.

- **Moderately stable states face localized unrest in mining zones**

In Chile, the state's dual role as regulator and beneficiary (via CORFO) creates public distrust, especially in the Atacama³⁷. While there is no armed conflict, the combination of localized resistance and weak enforcement mechanisms introduces moderate business risk. Namibia shows relatively high regional stability in mining zones, with low levels of violence. However, concerns about Chinese investment and elite capture^A have led to civil society pushback^{38,39,40}. Argentina's provinces like Catamarca and Salta have built institutional capacity to promote lithium industrialization, yet Indigenous protests and weak intergovernmental coordination brings uncertainty into policy continuity^{41,42}.

- **Low political stability undermines policy continuity**

Brazil maintains national democratic stability but faces localized instability due to illegal mining (*garimpo*), land conflicts, and weak enforcement in areas like Yanomami Indigenous territories^{43,44}. Governance shifts with political leadership, with protective policies rolled back under the Bolsonaro administration and reinstated under President Lula, leading to inconsistent business risks and limited state control^{45,46}. In India, mineral ambitions are challenged by regional insurgencies, tribal resistance, and land conflicts in resource-rich areas⁴⁷. Political stability is further strained by federal-state tension, especially over natural resource control and environmental clearance processes⁴⁸.

- **Conflict-prone or centralized states link extraction with suppression**

China is politically stable through state control and not public consensus. Mineral policy is tightly managed under five-year plans, with little room for dissent. Bolivia's lithium sector has been shaped by political unrest, especially post-2019, with ongoing tensions between the government and local movements in Potosí. Nigeria faces severe instability such as armed conflict, illegal mining, and weak state control in lithium-rich areas like Nasarawa undermine both investor confidence and community safety. Zimbabwe is slightly more stable, but violence around artisanal mining and repression of protest remain serious concerns³¹.

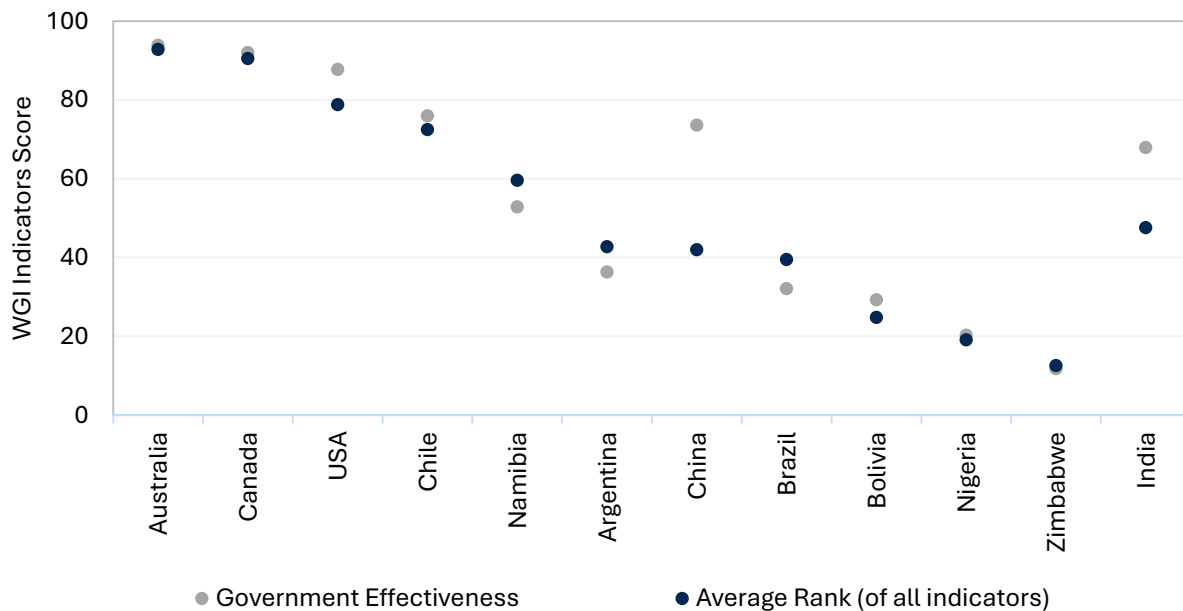
- **Political stability is meaningful when it is locally grounded**

Across contexts, political stability in lithium-producing regions cannot be assumed from national metrics alone. Many countries exhibit “islands of instability” in mineral-rich areas: zones where social tensions, environmental degradation, or resource nationalism intersect to create localized volatility. For extractive governance, while the question is whether a state is stable, it is equally important to concern whether the state's stability is participatory, just, and resilient to the pressures of resource-led development.

^A According to the World Bank, [elite capture](#) refers “to situations in which elites shape development processes according to their own priorities or appropriate development resources for private gains (p.1)”. It is both a form of corruption and discrimination. Elite capture here refers to the concentration of mining benefits among politically connected actors, while local communities receive few or limited benefits, and decision-making becomes less transparent and inclusive.

4. Government Effectiveness: Ambition often outpaces institutional capacity

Figure 4: Worldwide Governance Indicator Score: Government Effectiveness (2023)



- **Capacity, coherence, clarity, and coordination make an effective governance**

Among high-capacity democracies, Australia and Canada demonstrate strong government effectiveness, marked by coherent and clear policy design, inter-agency coordination, and technical capacity in regulating the mining sector^{32,33}. Australia stands out for its structured federal-state division of mining responsibilities and robust data systems (for example, Geoscience Australia). Canada balances federal oversight with provincial autonomy, with entities like Natural Resources Canada providing technical and geoscientific support.

- **Fragmentation across agencies and jurisdictions slows progress**

The U.S. has strong institutions at federal and state levels, but critical mineral policy is split across several departments (Interior, Energy, Commerce, and Defense), which results in slower permitting and implementation delays^{49,50}. Chile shows technocratic effectiveness with delivery bottlenecks. Institutions like CORFO and the Ministry of Mining play a significant role in lithium policy, including negotiating royalty regimes and public-private partnerships^{51,52}. Yet federal-subnational coordination remains limited, and the implementation of reforms concerning new public-private joint ventures slow.

India presents a mixed case. While the Centre has launched initiatives like the National Critical Minerals Mission (NCMM)⁵³ and setup new institutions such as Khanij Bidesh India Ltd. (KABIL)⁵⁴, implementation is hindered by overlapping mandates between the Ministry of Mines, state

departments, and environmental authorities. In lithium exploration, gaps remain in domestic expertise, geoscientific data, and institutional clarity on value chain roles⁵⁵.

- **Centralized capacity enables rapid delivery but limits local autonomy and transparency**

China represents an outlier among upper-middle-income countries. Its effectiveness score is high due to administrative capacity and rapid policy implementation⁵⁶. Industrial policy is coordinated and well-funded, particularly in downstream and midstream lithium sectors led by state-owned enterprises like Ganfeng and CMOC⁵⁷. However, this centralized structure limits subnational autonomy and operates with minimal public consultation or decentralization.

- **Subnational actors can lead where national oversight is stretched thin**

Namibia and Argentina reflect partially effective governance. Namibia's Ministry of Mines and Energy has formulated credible policies and conducted geological surveys with support from international partners (Germany and China)^{58,59,60}. However, capacity is stretched at the enforcement level and in rural regions. Argentina's federal government has weaker mining oversight, while sub-national provinces like Catamarca have created dedicated lithium offices and streamlined EIA processes⁶¹. Federal funding and coordination with other provinces lag, making national oversight uneven.

- **Institutional ambition outpaces implementation capacity**

Brazil and Bolivia reveal gaps between institutional vision and delivery. Brazil's new Lithium Valley initiative reflects industrial ambition, but capacity constraints at the National Mining Agency (ANM) and shifting environmental oversight weaken effectiveness⁶². Federal funding remains limited, and subnational governments, despite having formal powers struggle with enforcement. Bolivia's lithium governance is dominated by *Yacimientos de Litio Bolivianos* (YLB), a state-owned enterprise with limited technical and institutional capability²⁵. Coordination with local stakeholders and regions is weak, and federal funding for operational scale-up remains inconsistent⁶³.

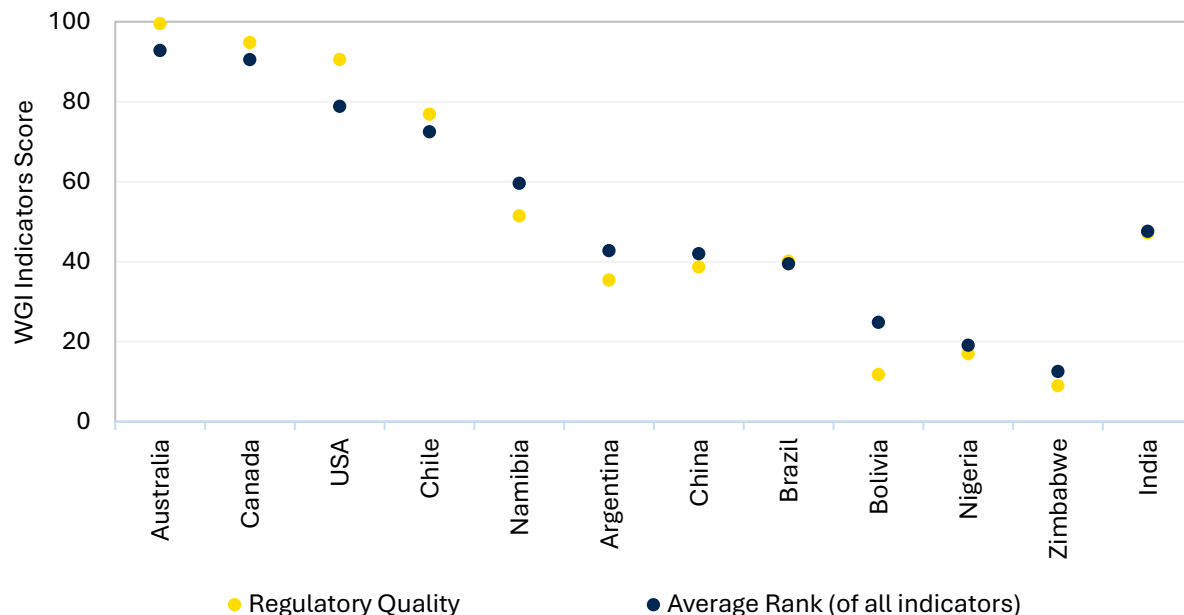
- **Low-capacity or politically constrained states face delivery gaps**

Nigeria's Integrated Mineral Exploration Project (NIMEP) reflects progress on long-term planning, but the federal mining agency is underfunded, enforcement remains weak, and regulatory capacity is thin, especially in subnational jurisdictions^{64,65}. In Zimbabwe, the government lacks consistent policy direction, and the mining *cadastre* (the government system that records mining licenses, concessions, and mineral rights) and permitting regime are outdated⁶⁶. Devolution of governance is nearly absent, with central actors dominating decision-making without local input or delivery mechanisms.

Overall, government effectiveness signals the ability of the state to design and implement policy with long-term consistency, adequate funding, and operational alignment across different levels of governance. The divergence between legal structure and state capacity to enforce, coordinate, and adapt presents the core challenge for lithium governance in many resource-rich regions.

5. Regulatory Quality: Strong laws don't guarantee predictable enforcement

Figure 5: Worldwide Governance Indicator Score: Regulatory Quality (2023)



- **High performers combine legal clarity with regulation**

Australia and Canada support comprehensive and transparent legal systems. Australia's Mining Act, for example, in Western Australia, clearly defines exploration, licensing, and ESG obligations⁶⁷. Regulatory processes are stable, with companies operating in a context of legal certainty. ESG compliance is enforced through both federal and state-level tools. Canada's legal architecture maintains high transparency through laws like the Extractive Sector Transparency Measures Act (ESTMA)⁶⁸. Both countries maintain high federal regulatory coherence and robust subnational enforcement.

- **Strong laws don't guarantee streamlined coordination**

The U.S. has strong statutory protections and disclosure mandates, with ESG considerations woven into Securities and Exchange Commission (SEC) reporting^{69,70}. However, the lack of streamlined coordination makes permitting and compliance less predictable. Lithium in Chile remains a "strategic resource" governed by Decree Law No. 2886 (1979), with development authorized only via state-corporate partnerships⁶³. While new joint ventures involving Codelco aim to expand production, they are still emerging, and subnational implementation remains patchy. CORFO publishes royalty contracts and enforces revenue transparency, but ESG frameworks lack unified enforcement mechanisms.

- **Middle-income producers exhibit legal gaps and fragmented oversight**

Argentina's regulatory structure is decentralized by compulsion (due to weaker national regime), with provinces like Catamarca implementing more proactive lithium governance^{61,63}. However, the overall legal framework is old and ESG requirements remain inconsistently applied. Namibia has a defined Mining Act⁷¹, but enforcement suffers from limited institutional capacity, especially at subnational levels. While reforms are in motion, rules of engagement for investors remain unpredictable, thus, highlighting the importance of both the nature of reform but also its pace.

- **State-aligned regulation may hinder legal certainty**

China's regulatory enforcement is aligned with industrial strategy, subordinated to geopolitical and national security priorities. Abrupt export controls (as seen in the 2023 gallium and germanium restrictions⁷²) highlight how foreign firms face unclear legal paths⁷³. Brazil has strong mining codes but frequent national level changes in environmental regulation, such as deregulation drive under Bolsonaro administration have weakened coherence. While President Lula's reinstated protections are promising, they are yet to be implemented fully⁴⁵.

- **Lower middle-income countries reflect opaque and discretionary legal regimes**

Bolivia, Nigeria, and Zimbabwe face significant regulatory weaknesses. Bolivia's centralized control through *Yacimientos de Litio Bolivianos* (YLB) results in opaque contracts and restrictive operating conditions²⁵. Nigeria's revised mining laws aim to attract investment but suffer from poor ESG enforcement, low transparency, and weak subnational legal authority. Zimbabwe⁷⁴ is marked by frequent changes in mining legislation, ad hoc incentives, and discretionary political interference. The absence of structured ESG frameworks and institutional consistency undermines investor confidence and local accountability⁷⁵.

- **India's regulatory system highlights legal frameworks but operational gaps**

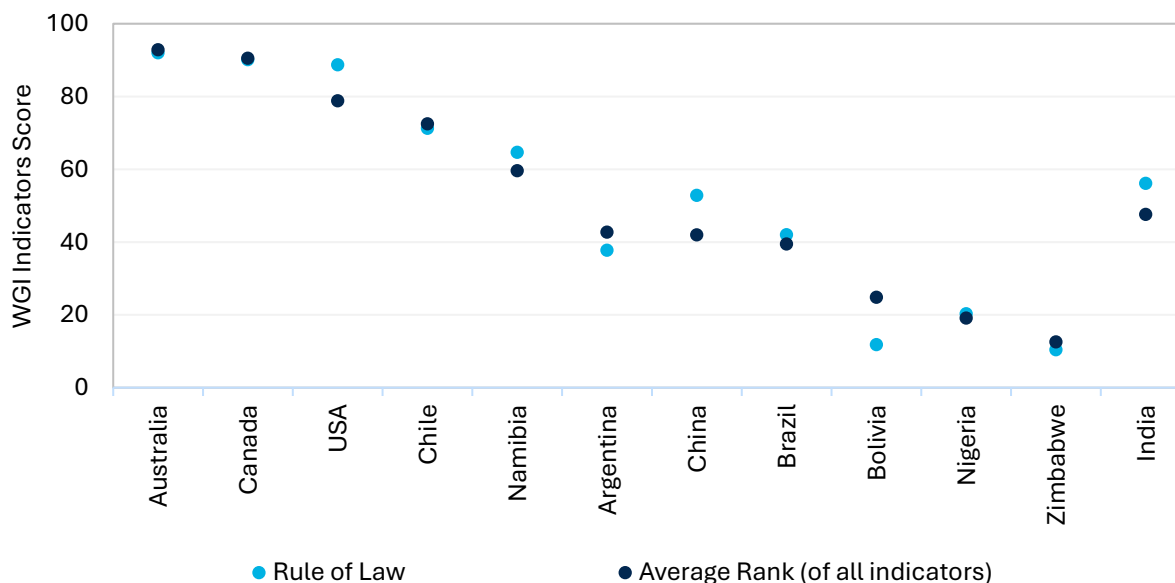
India's Mines and Minerals (Development and Regulation) Amendment Act (2023) provide a clear legal basis for mineral exploration and auctioning⁷⁶. However, lithium-specific guidelines are still evolving. While India has begun to issue exploration licenses through the Geological Survey of India and KABIL, the regulatory ecosystem remains ambiguous, and ESG compliance tools are nascent.

- **Regulatory quality reveals the implementation divide**

Many countries possess legal frameworks "on paper" but lack the institutional consistency to apply them effectively across subnational jurisdictions. ESG enforcement remains a weak point across nearly all emerging producers. Even where federal laws are present, subnational disjuncture (misalignment between national laws and their implementation by states or provinces) and lack of implementation resources render regulation inconsistent. What distinguishes high performers is not just the presence of legal frameworks, but the clarity with which rules are formulated and applied across the mining lifecycle and value chain.

6. Rule of Law: Legal systems protect rights only when enforcement is consistent

Figure 6: Worldwide Governance Indicator Score: Rule of Law (2023)



- **Strong performers uphold legal predictability and access to justice**

Australia, Canada, and the U.S. stand out for the most robust rule-of-law environments. Australia maintains strong land tenure systems where Native Title claims coexist with mineral licenses¹¹. While legal appeals may delay mining projects, they rarely derail them, providing long-term institutional durability. Canada's judiciary plays a central role in enabling legal recourse to indigenous consultation and environmental review as observed in the Coastal GasLink pipeline dispute in British Columbia⁷⁷, and mining projects in Nunavut^{78,79}. In the U.S., courts have upheld tribal and environmental objections, ensuring mining companies comply with extensive federal and state statutes⁸⁰.

- **Legal safeguards exist, but enforcement strains are growing**

Chile's legal and judicial systems remain strong on paper. Courts uphold environmental and Indigenous rights yet rising tensions over water and extractive governance expose limitations in enforcement capacity and bureaucratic responsiveness. Namibia has a relatively independent legal system for the region, and civil society has successfully contested certain mining licenses, particularly Chinese ventures, though follow-through and local enforcement capacity remain weak.

- **Legal protections are uneven due to political and administrative constraints**

In Argentina, legal protections for land and water rights exist, but are unevenly recognized and enforced. Brazil's legal framework is more developed, and courts have ruled in favor of

environmental and Indigenous plaintiffs (e.g., post-Vale disaster⁸¹), but enforcement is slow and often influenced by political shifts, weakening the rule of law in practice⁸².

- **Centralized legal authority limits impartial enforcement**

While courts technically function and laws exist, judicial independence is subordinated to political leadership in China. Disputes involving state-owned enterprises or foreign joint ventures are often resolved informally or via administrative decree. Legal access is limited, especially for non-state or non-local actors. This undermines predictability and legal transparency, especially for external stakeholders.

- **Fragile legal systems deepen governance risks**

In Bolivia, legal recourse for mining-affected communities is fragile in state-controlled zones like the Salar de Uyuni⁶³. Nigeria's dual land tenure system and selective legal enforcement have produced systemic conflict in mining areas that overlaps between customary claims and formal concessions remain unresolved^{83,84}. Zimbabwe has one of the weakest legal systems among the countries assessed: enforcement of environmental law is rare, traditional land rights remain unprotected, and courts are largely inaccessible to communities seeking remedy.

- **India's legal institutions are uneven and overburdened**

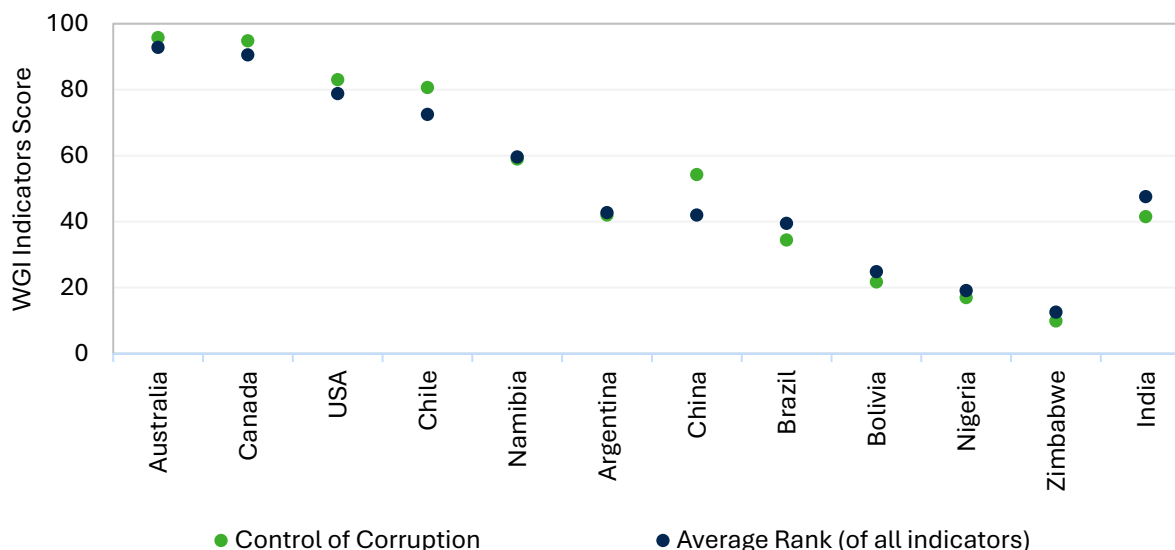
India's constitutional and legal framework uphold strong formal protections, including for land acquisition, tribal rights (for example, under the Forest Rights Act), and environmental safeguards⁸⁵. Legal disputes over mining in Odisha, Chhattisgarh, and Jharkhand highlight judicial activism, but enforcement is slow. Courts have ordered mine closures or compensation, but follow-through is inconsistent^{86,87}. Communities face long legal timelines and limited legal literacy, reducing practical access to justice.

- **Rule of Law defines the strength of community safeguards**

Overall, the rule of law is a decisive factor in enabling or constraining mineral governance. Where long-term legal predictability is matched by community access to redress, governance systems are more likely to uphold social and environmental safeguards. In countries where legal systems exist on paper but not in practice, rule-of-law deficits directly translate into elevated governance risk.

7. Control of Corruption: Transparency exists, but enforcement often lags

Figure 7: Worldwide Governance Indicator Score: Control of Corruption (2023)



- **High-scoring countries combine transparency laws with institutional enforcement**

Australia, Canada, and the U.S. have strong institutional guardrails against extractive sector corruption. Australia has well-established anti-corruption bodies and transparent licensing regimes; procurement processes in lithium mining are subject to robust scrutiny^{88,89}. Canada is a global benchmark for transparency with its ESTMA which mandates public revenue disclosures by all mining firms⁹⁰. The U.S. enforces disclosure rules through the SEC⁹¹, but lobbying by large mining and energy firms has raised concerns about regulatory capture and the influence of private interests over permitting reforms.

- **Targeted transparency efforts are present but vulnerable to political influence**

Chile maintains high public transparency in lithium revenue governance. The state agency CORFO publishes lithium royalty contracts and civil society can track mining and environmental data⁶³. In Namibia, improvements in public procurement have taken place, but informal political-business ties still influence access to mining licenses. In Argentina, provincial licensing in lithium-rich regions have faced allegations of non-transparent contracts and lack of public access to Environmental Impact Assessments (EIAs).

- **Formal legal tools exist, but enforcement is selective or politicized**

In China, formal anti-corruption campaigns exist but enforcement is selective and aligned with political interests⁹². Corruption risks persist in procurement and local licensing. Brazil shows a paradoxical case: post-Operação Lava Jato, the country improved its legal framework against corruption (e.g., the Clean Company Act)⁹³, but elite political influence continues to shape business

outcomes. The mining sector has experienced recurring scandals involving informal approvals and environmental negligence.

- **Deep-seated corruption undermines sector governance**

Bolivia, Nigeria, and Zimbabwe continue to face significant governance and institutional challenges. In Bolivia, civil society has raised repeated concerns about YLB's lack of contract transparency and centralized deal-making with Chinese and Russian partners^{25,63}. Nigeria's Extractive Industries Transparency Initiative (EITI) report highlights poor enforcement of audit mechanisms and widespread revenue leakage in the solid minerals sector⁹⁴. Zimbabwe suffers from entrenched rent-seeking behavior: lithium deals are often brokered through politically connected intermediaries. Reports surrounding Sinomine's acquisition of the Bikita mine point to elite enrichment and the exclusion of local stakeholders from decision-making⁹⁵. India has a strong anti-corruption legal framework, including the Prevention of Corruption Act and Lokpal Act⁹⁶, and has improved licensing transparency through mineral auction reforms⁹⁷. However, gaps remain in post-license monitoring, contractor oversight, and environmental clearances, with allegations of collusion in states like Odisha, Jharkhand, and Karnataka. Civil society oversight exists, but data on lithium blocks, revenue sharing, and compliance remains limited.

- **Control of corruption shapes trust and accountability in mineral governance**

Control of Corruption in the critical minerals sector hinges on legal frameworks, enforcement of disclosure norms, transparency in licensing and revenue flows, and meaningful public oversight. Countries with weak anti-corruption mechanisms not only undermine business confidence but also risk intensifying social conflict and environmental harm due to unaccountable mineral governance.

8. Policy Recommendations

A. Redesign sourcing strategies to include governance indicators

Countries and companies seeking secure and responsible critical mineral supply should embed governance quality directly into their sourcing frameworks as a core decision-making criterion alongside cost and technical feasibility. This means incorporating established governance benchmarks into procurement policies, offtake agreements, and investment screening processes. For instance, the EU's Critical Raw Materials Act⁹⁸ and the U.S. Minerals Security Partnership⁹⁹ have begun recognizing the value of governance-linked partnerships. Building these models, national strategies should require due diligence assessments of partner countries' governance performance, with clear thresholds for engagement or risk mitigation. Over time, trade incentives or financial support can be made conditional on improvements in governance quality, particularly in high-risk jurisdictions. This recommendation directly ties to the insight that governance is not just national but highly localized, requiring country-level and subnational assessment tools and acknowledges that international partnerships shape domestic governance standards. Monitoring indicators such as the share of mineral deals that include governance clauses or third-party audit requirements can help institutionalize these expectations across the supply chain.

B. Strengthen subnational governance and institutional infrastructure for upstream stability

Upstream governance depends on the national laws and the ability of subnational institutions (provinces, states, and municipalities) to implement, monitor, and adapt those laws. In countries like Argentina, Brazil, Nigeria, and even India, permitting, environmental approvals, and community consultations are often handled at the local level. Yet these institutions face chronic gaps in funding, staffing, technical expertise, and legal clarity. Strengthening government effectiveness here requires long-term investments in institutional capacity: creating clear mandates, staffing independent environmental agencies, and equipping provincial bodies to manage licensing, oversight, and community engagement. For example, Argentina's Salta, Catamarca, and Jujuy provinces agreed to an Interprovincial Treaty – the Regional Lithium Committee¹⁰⁰ (RLC) was created as part of the treaty to overlook national and provincial lithium related matters, while Brazil's National Mining Agency has faced criticism for being underfunded and overly centralized¹⁰¹. Technical assistance and climate finance should prioritize local governance systems and not just infrastructure. Institutionalizing capacity at the subnational level will also help ensure procedural integrity in areas like free, prior and informed consent (FPIC), benefit-sharing, and grievance redressal. Finally, multinational development institutions and joint ventures should embed local governance performance indicators and periodic audits as a precondition for upstream engagement.

C. Moving beyond voluntary ESG standards: mandating legal compliance, oversight, and third-party audits

Voluntary ESG frameworks like the Initiative for Responsible Mining Assurance¹⁰² (IRMA), Towards Sustainable Mining^{B,103} (TSM), or company-specific guidelines (like Albemarle's Sustainability Framework¹⁰⁴ or SQM's Sustainability, Ethics and Human Rights Policy¹⁰⁵) have become the norm in lithium supply chains. However, their effectiveness remains limited in the absence of binding legal requirements, state-led enforcement, or international accountability mechanisms. Governance must shift toward enforceable ESG standards that include core obligations such as free, prior, and informed consent (FPIC), benefit-sharing mechanisms, independent environmental monitoring, and robust grievance redress systems. Countries such as Chile and Canada have taken early steps: Chile's 2023 National Lithium Strategy⁵¹ requires state oversight of benefit-sharing with Indigenous communities, and Canada's Impact Assessment Act includes provisions for community participation and long-term environmental risk. However, most jurisdictions still rely on discretionary, poorly monitored compliance. To bridge this gap, countries should embed ESG safeguards into mining and environmental legislation with enforcement mechanisms tied to licensing, revenue-sharing agreements, and operating permits. Legal and mandatory requirements of independent third-party audits must become standard practice. These audits should assess both project-level and company-wide ESG practices and be publicly accessible. Additionally, trade partners, development banks, and downstream buyers should condition investments and offtake agreements on the presence of enforceable ESG frameworks, with differentiated approaches suited to local contexts.

D. Extend governance responsibility to downstream industry and ensure end-to-end oversight

Current governance frameworks focus on upstream extraction, often ignoring the role of downstream players (battery manufacturers, EV producers) in shaping extractive practices. Their procurement standards, contract terms, and investment choices influence labor conditions, environmental safeguards, and benefit-sharing on the ground. To address this, countries should require downstream companies to conduct Human Rights and Environmental Due Diligence¹⁰⁶ (HREDD) across their supply chains, in line with emerging norms such as the EU Corporate Sustainability Due Diligence¹⁰⁷, and the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas¹⁰⁸. Public-private partnerships and offtake agreements should include binding ESG expectations and transparency clauses, ensuring accountability throughout the supply chain, not just at the mine site. This requires better coordination between mining ministries, trade authorities, and industrial policy bodies, more so in countries aiming to develop domestic value-addition or battery manufacturing sectors. A holistic governance approach also calls for integrating ESG compliance into customs, export licensing, and investment promotion frameworks, rather than leaving it siloed within mining or environment

^B TSM is voluntary in principle but conditionally mandatory in practice, mainly in Canada where it is required for industry association membership and can be tied to government funding or public trust.

ministries. By embedding responsibility across the entire value chain, this recommendation addresses governance fragmentation, closes enforcement gaps, and places appropriate accountability on international buyers and investors. It also aligns with efforts by countries like Germany (example, the Act on Corporate Due Diligence Obligations in Supply Chains¹⁰⁹) and Japan (example, 2023 Japan-U.S. Critical Minerals Agreement¹¹⁰) to create traceable, ESG-compliant supply chains for critical minerals.

E. Institutionalize transparency and public oversight across the value chain

Transparency is foundational to ensuring public accountability, preventing corruption, and enabling informed civic participation. Yet in the lithium sector, critical information such as block-level licensing decisions, revenue-sharing terms, environmental assessments, and contract conditions is often opaque, especially in subnational contexts where enforcement occurs. Countries should make the public disclosure of mineral contracts, offtake agreements, and impact assessments mandatory, not discretionary. Mechanisms like the Extractive Industries Transparency Initiative^c (EITI) and Canada's ESTMA⁹⁰ already provide operational models that can be adapted to lithium contexts. Governments should build on these by creating legally binding disclosure requirements for lithium allocations made via bilateral or joint venture frameworks where opacity often persists. In countries like Argentina, Brazil, or Nigeria, transparency efforts must be extended to the provincial and municipal levels, where much of the permitting and revenue distribution occurs. To ensure procedural integrity, such transparency must be accompanied by formal grievance redress systems, citizen audit mechanisms, and public participation processes during project approvals. International investors and offtakes must also be held to equivalent disclosure standards, as part of building reciprocal accountability. Overall, transparency must be embedded in institutions through independent monitoring agencies, digitized public registries, and open geodata platforms that can be accessed and interpreted by affected communities.

F. Invest in independent data infrastructure and civic monitoring

Sustainable and just critical mineral governance demands reliable, disaggregated, and publicly accessible data but existing systems remain fragmented, proprietary, or absent altogether, especially in producer countries. Government agencies, multilateral institutions, and corporate actors must prioritize investments in independent data infrastructure that capture the full mineral lifecycle (from exploration and licensing to production, trade, and socio-environmental impact). These should include geological maps, cadastral registries, disaggregated export data, and community-level environmental and health baselines. Initiatives like the African Minerals and Geosciences Centre¹¹¹, OECD Due Diligence Guidance, and the United Nations Resource Management System¹¹² (UNRMS) offer blueprints for integrated, multi-stakeholder data platforms. To operationalize 'Voice and Accountability', such infrastructure must be accompanied by support

^c More than 50 countries are part of EITI, committed to strengthen transparency and accountability. Among the countries considered for the analysis, Argentina and Nigeria are the EITI implementing countries. EITI engages with resource-rich countries and is currently engaging with Brazil, Chile, and Namibia among others in natural resource management transparency and accountability.

for civic monitoring, independent journalism, watchdog organizations, Indigenous observatories, and participatory audit mechanisms. In many jurisdictions, subnational authorities lack the technical capacity or mandate to generate and manage such data; international partnerships should prioritize long-term support for local statistical offices, universities, and civil society networks. Furthermore, multilateral cooperation can standardize reporting templates, ensure interoperability, and embed civic indicators into performance reviews for critical mineral agreements or partnerships. Without such visibility, neither investors nor communities can make informed decisions, and governance risks will remain invisible.

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