

Reforming Artisanal Mining in Sub-Saharan Africa: A Comparative Review and Zambia's Policy Pathway

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Abstract: *This article explores the transition from criminalization to formalization in managing artisanal and small-scale mining (ASM) across six Sub-Saharan African countries. Through a comparative policy analysis of regulatory frameworks, institutional capacities, and implementation outcomes, the study identifies the mechanisms shaping effective ASM formalization. Findings reveal that while legal reforms exist across the region, persistent informality stems from complex licensing systems, weak decentralization, limited support services, and inconsistent enforcement. The paper distills policy lessons for Zambia, recommending a more integrated and service-oriented governance approach. By aligning with regional best practices, Zambia can close the gap between legal intent and practical outcomes in ASM governance.*

Keywords: artisanal mining, formalization, policy reform, Sub-Saharan Africa, Zambia

1. Introduction

Artisanal and small-scale mining (ASM) has grown very quickly in Sub-Saharan Africa (SSA), with poverty in rural areas and increasing demand for minerals in the global market (Hilson and McQuilken, 2014; UNECA, 2018). For many years, the main government response has been criminalization – regular bans, police/militia operations, and describing artisanal/miners as “illegal miners” (Hilson, 2016). However, experience shows that this punitive approach does not typically reduce informal mining but moves it underground and increases conflicts with the authorities (Fisher et al., 2009; Katz-Lavigne, 2024).

But in the past fifteen years, there has however been a gradual transformation towards formalization as a development-oriented policy paradigm. There is now an increasing definition of formalization to comprise reforms that cover simplified licensing requirements, ASM areas, miners' cooperatives, extension, occupational health, safety, environmental management, mineral traceability, and market access (IGF, 2017; UNECA, 2018). At the continental level, Africa Mining Vision considers formalization/integration of ASM concepts into rural development strategies to be key to mineral-driven development (African Union, 2009).

2. What is Changing and Why?

A number of factors are pushing the change. Governments are facing increasing pressures to minimize leakages of revenues owing to the illegal trade of minerals and align with international supply chain pressures of legality and traceability, especially in the area of gold and other key minerals (World Bank, 2024). Governments of countries like Ghana, Tanzania, Rwanda, and the Democratic Republic of Congo have experimented with approaches like zoning in ASM activities, cooperative-based licenses, and traceability programs to mainstream artisanal production (IGF, 2017; UNECA, 2018).

Nevertheless, the degree of transitions achieved through criminalisation to formalization remains unequal. Thus, governments in many settings continue to swing from repression to momentary formalization. It has been indicated through research that illegality emerges from the very policy paradigm. This occurs through intricate administrative requirements, lack of institutional capabilities, and poor provisions of services, making formal membership unachievable for the majority of artisanal miners (Hilson, 2016; Katz-Lavigne, 2024). As such, formalization policies mostly formalise mining activities on paper, without necessarily altering on-the-ground dynamics.

3. The Zambian Situation: Intentions Behind Formalization and Gaps in Implementation

The above forces and factors can be observed in Zambia. The connection of ASM with gold, gemstones, and now the copper-related and critical minerals value chain is long-standing and gaining momentum (Kaczmarek et al. 2025). There is a national legal framework that offers Artisanal Mining Rights, which are Exclusive to Citizens of Zambia, and Small-Scale Mining Licenses, which are limited to citizen-controlled and influenced companies, reflecting the government's desire to localize the benefits (Kaczmarek et al. 2025). There has been an increase in the number of artisanal mining rights, as reported in the latest government reports, reflecting an ever-increasing desire to formally recognize the practice (Ministry of Mines and Minerals Development, 2025).

However, the gap between policies and practices remains quite large. The artisanal miners still work as informal miners due to transaction costs, lack of access to land, lack of technical services, poor enforcement ability, and poor access to the formal market (IGF, 2017; World Bank, 2024). The formalization process has been inadequate, which has not had a positive effect on the management of the environment, occupational health, or livelihoods.

Although formalization has emerged as a mainstream policy focus within SSA, there is only restricted comparative knowledge available to date relating to country experience and transitioning from Criminalization and its elements of success or failure during this process. In Zambia, the debate is less focused on whether or not to formalize ASM and more concerned with determining a way that is both legitimate and feasible while meeting demands of development and environmental degradation, occupational health risks, and the challenge of governance (Kaczmarek et al., 2025; UNECA, 2018). This study addresses a critical gap in comparative evidence on effective ASM governance models in Africa, offering actionable insights for countries like Zambia currently navigating policy reform.

4. Materials and Methods

4.1 Research Design

This research employs a qualitative comparative policy analysis design with a systematic document analysis approach. This design is appropriate for evaluating how various countries within the Sub-Saharan African context have undergone a transition from criminalization towards formalization in ASM management, and for learning lessons that can be applied within the Zambia context. Being comparative in nature enables an evaluation of some divergence or similarity in otherwise similar contexts (George and Bennett, 2005; Schut et al., 2015).

4.2 Case Selection

Six countries are purposively sampled based on economic importance to ASM activities, representation of policy reforms recently undertaken, together with document availability. These are Ghana, Tanzania, Rwanda, the DRC, Mozambique, and Zambia. These cases are representative of different mineral endowments, governance systems, and levels of formalization of ASM (IGF, 2017; UNECA, 2018).

4.3 Data Sources

This study is reliant on exclusively secondary data. The literature search was conducted in peer-reviewed journals using the following search terms: "artisanal mining formalization," "ASM policy Africa," "illegal mining criminalization," and "ASM governance Zambia." Grey literature sources included policy briefs, mining laws, national strategies on ASM, reports on Africa Mining Vision, Intergovernmental Forum on Mining, Minerals, Metals, and Sustainable Development, and reports by the World Bank, together with reports by the UNECA and reports from the ministries of the chosen countries that regulate mining (African Union, 2009; IGF, 2017; UNECA, 2018; World Bank, 2024).

4.4 Document Selection and Inclusion Criteria

The documents that range from 2005 to 2025 were considered to cover the era where major reforms in ASM took place in SSA. The document was included if it specifically dealt with either the criminalization, formalization, regulation, institutional, or results of implementation related to ASM.

The document was excluded if it was purely focused on LSM or if it did not have a policy/governance focus. The titles, abstracts, or executive summaries were screened, and then documents that met the criteria were included.

4.5 Data Analysis

The data were analyzed using qualitative thematic content analysis. The coding of all selected documents to identify themes emerging from criminalization strategies, formalization instruments, institutional arrangements, challenges in implementing, and outcomes was done manually. The themes for coding were generated inductively in an iterative process with Braun and Clarke's (2006) guidelines. Cross-case synthesis procedures were employed to determine the respective impacts of policy measures on ASM governance outcomes in different countries (George and Bennett, 2005).

4.6 Analytical Framework

The approach was based on the continuum of criminalization and formalization, which interpreted the management of the ASM sector on a spectrum from control through enforcement to formalization for development. The approach identified five core areas: legal and regulatory framework, institutional capabilities, access to land and licenses, service delivery infrastructure, and market inclusion and traceability (IGF, 2017; UNECA, 2018).

5. Results

The key findings from the systematic review and comparative analysis of ASM policy reforms in selected Sub-Saharan African countries, with a focus on the transition from criminalisation to formalization, are presented in this section. Evidence related to the regulatory framework, institutional arrangement, implementation outcomes, and socio-environmental impact is synthesized to underscore the emerging patterns, similarities, and divergences across national approaches. The results are thematically categorised and summarised in comparative tables to promote cross-country interpretation and to draw out policy-relevant lessons that will be useful in the Zambian context.

5.1 From Criminalisation to Formalization in ASM Management Across Selected Sub-Saharan African Countries

Table 1 compares the dominant policy trajectories shaping ASM governance in Ghana, Tanzania, Rwanda, the DRC, Mozambique, and Zambia. Across all cases, earlier approaches relied heavily on criminalisation through bans and enforcement operations, reflecting a long-standing tendency to treat ASM primarily as a security and illegality problem rather than a livelihood and governance issue (Hilson 2016; Katz-Lavigne 2024). By the same token, the table also indicates that every country has introduced at least one formalization instrument, including differentiated licensing regimes, ASM zones, cooperative-based participation, and traceability measures, consistent with wider regional and continental policy prescriptions that promote inclusive and

regulated ASM development (IGF 2017; UNECA 2018; African Union 2009).

However, the “dominant current approach” column makes clear that formalization has not uniformly replaced criminalisation. Ghana and the DRC evidence a mixed and sometimes contradictory pattern, whereby reforms coexist with periodic crackdowns—a situation that generates policy uncertainty and constrains sustainable compliance (Hilson, 2016; Katz-Lavigne, 2024). In contrast, Rwanda seems more consistently formalization-oriented, underpinned by cooperative governance and tighter regulatory implementation, which has underpinned relatively higher compliance outcomes compared to the other cases (World Bank, 2024). Zambia and Mozambique remain in early-stage formalization, where legal provisions exist but several barriers—including the complexity of licensing, weak decentralisation, and low coverage of support services—sustain high levels of informality (IGF, 2017; UNECA, 2018; Kaczmarek et al., 2025). The table thus stressed that policy effectiveness hinged on a great number of elements other than the mere existence of formalization laws: it required operational capacity, institutional coherence, and actual pathways leading the artisanal miners towards entering legality.

Table 1: Overview of ASM policy orientation in selected Sub-Saharan African countries

Country	Historical policy orientation	Key formalization reforms	Dominant current approach
Ghana	Strong criminalization through bans and police operations (Hilson, 2016)	Small-scale mining licenses, Community Mining Scheme (IGF, 2017; UNECA, 2018)	Mixed: enforcement combined with partial formalization (Hilson, 2016)
Tanzania	Criminalization with decentralized enforcement (UNECA, 2018)	Zonal licensing offices, ASM zones (IGF, 2017)	Gradual shift toward decentralized formalization (UNECA, 2018)
Rwanda	Low tolerance for illegal mining (World Bank, 2024)	Cooperative-based ASM model, mandatory registration (World Bank, 2024)	Formalization-oriented with consistent enforcement (World Bank, 2024)
DRC	Militarized control in conflict mineral zones (Katz-Lavigne, 2024)	Traceability systems, formal ASM sites (IGF, 2017)	Mixed: formalization alongside periodic crackdowns (Katz-Lavigne, 2024)
Mozambique	Centralized regulation and weak enforcement (UNECA, 2018)	Artisanal mining certificates, legal ASM areas (IGF, 2017)	Limited formalization with high informality (UNECA, 2018)
Zambia	Criminalization of unlicensed mining (Kaczmarek et al., 2025)	Artisanal Mining Rights, citizen-reserved licenses (Kaczmarek et al., 2025)	Early-stage formalization with persistent informality (IGF, 2017)

5.2 Comparison between Countries Regarding Licensing Complexity, Decentralised Institutions, and Services for Artisanal and Small-Scale Mining Practices

Table 2 outlines how institutional design and service delivery capacity in influencing the implementation of ASM formalization reforms for the chosen countries. From Table 2 above, it can be noted that there exists vast variability for both license complexity and levels of decentralisation of regulatory frameworks, which are fundamental determinants for artisanal miners to be able to enter and stay in the formal sector with ease (IGF, 2017; UNECA, 2018). For countries with complex and centralised regulatory frameworks for licenses, like Ghana, the DRC, Mozambique, and Zambia, service delivery is expected to be poor for technical support, and for regulatory inspection frameworks, particularly for remote mining regions (Hilson, 2016; IGF, 2017; UNECA, 2018).

By contrast, the instance of Rwanda is notable as a situation in which institutions are relatively decentralised, and there is a stronger emphasis on helping to formalise, in the form of cooperative-based approaches to compliance, among other forms of oversight and support (World Bank, 2024). Tanzania represents an intermediate country, reflecting a degree of partial decentralisation and intermediate levels of support services, which is in turn reflective of the wider body of evidence that shows how decentralised approaches to licensing and locally available and supported regulatory services can be key in terms of improved take-up of the law and the mitigation of informality (IGF, 2017; World Bank, 2024). Taken as a whole, it is apparent from Table 2 that the outcome of formalization is a function of legal and governance-related capacity, and in this respect, decentralised licensing centres and extension services that address transaction costs and the mine's provision of inputs to address environmental and safety concerns (UNECA, 2018; World Bank, 2024).

Table 2: Institutional and service delivery characteristics

Country	Licensing system complexity	Decentralised institutions	Technical and extension services
Ghana	High (Hilson, 2016)	Low (IGF, 2017)	Limited (IGF, 2017)
Tanzania	Moderate (UNECA, 2018)	Moderate (IGF, 2017)	Moderate (World Bank, 2024)
Rwanda	Low (World Bank, 2024)	High (World Bank, 2024)	Strong (World Bank, 2024)
DRC	High (Katz-Lavigne, 2024)	Low (IGF, 2017)	Weak (UNECA, 2018)
Mozambique	High (UNECA, 2018)	Low (IGF, 2017)	Weak (UNECA, 2018)
Zambia	High (Kaczmarek et al., 2025)	Low (IGF, 2017)	Weak to moderate (World Bank, 2024)

5.3 Common Bottlenecks in Effective Artisanal and Small-Scale Mining Formalization in Selected Sub-Saharan African Countries

Table 3 synthesizes the most frequently reported barriers that prevent ASM operators from transitioning from informality to sustained legal compliance across the study countries. The table shows that licensing costs and procedural complexity remain a principal constraint, where application processes are

often centralised, long, and poorly adapted to artisanal realities, dissuading miners from seeking permits even in cases when legal routes could be explored (IGF, 2017; Hilson, 2016). It also shows that the limited availability of mineral-bearing land, often due to the overlap of claims with large-scale concessions, can hold back opportunities for legal artisanal mining and, in this respect, often propels miners into both contested and prohibited areas (UNECA, 2018; Kaczmarek et al., 2025).

The institutional capacity barriers feature prominently-insufficient staffing, weak inspection systems, and limited ability to provide technical, environmental, and occupational safety support in remote mining locations. IGF (2017); World Bank (2024). In the absence of transparent markets and fair pricing mechanisms, incentives are weakened because informal channels may be quicker or financially more attractive, especially in cases when the regulated buying systems are weak or unavailable. UNECA (2018). Finally, according to Table 3, the enforcement styles characterised by periodic crackdowns deepen mistrust and induce displacement rather than long-term compliance. This is reinforcing cycles of criminalisation and informality even in contexts where formalization policies are being promoted. Katz-Lavigne (2024). Collectively, the barriers underscore that effective formalization requires integrated solutions that combine regulatory simplification, land access arrangements, institutional strengthening, and market integration rather than reliance on enforcement alone. IGF (2017); UNECA (2018)

Table 3: Key Barriers to Effective ASM Formalization

Barrier category	Manifestation across countries
Licensing costs and complexity	Lengthy procedures, high fees, limited rural access points (IGF, 2017; Hilson, 2016)
Land and mineral access	Overlapping claims with large-scale mining concessions (UNECA, 2018; Kaczmarek et al., 2025)
Institutional capacity	Inadequate staffing, weak inspection and monitoring systems (IGF, 2017; World Bank, 2024)
Market access	Absence of transparent buying centres and fair pricing mechanisms (UNECA, 2018)
Enforcement style	Periodic crackdowns undermine trust between miners and regulators (Katz-Lavigne, 2024)

5.4 Policy Lessons from Sub-Saharan Africa for Formalising ASM in Zambia

Table 4 above summarises the major policy implications of the cross-country analysis. According to the table, the performance of the policy of formalization can be improved through the reduction of complexity in the structure of licenses and through a decentralized structure (IGF, 2017; UNECA, 2018). This means that in the context of the new policy amendments in the ASM sector in Zambia, there should be a reduction in the complexity of the Artisanal Mining Rights procedures and improvements in the provincial or district structures of the department responsible for issuing licenses.

From this table, it is also evident that the institutional framework and services play an important role. Countries with robust localised institutions and extension-type technical services are better equipped to address non-compliance with

environmental health and occupational safety regulations and minimize informality (World Bank, 2024; UNECA, 2018). For Zambia, it means focusing on mining offices at the district levels, inspection services, and periodic training on best mining practices and environmental protection. Table 4 also indicates that policy inconsistency between governments making promises of licensing reform policies and hardline crackdown policies has been proven counter-productive in many places (Katz-Lavigne, 2024), suggesting that a stable and constant policy regime, reinforcing its enforcement messages with conformity options, would be appropriate for Zambia.

Lastly, the above table also brings out the significance of market integration. With miners able to see the buying points and also have legal value chains, there is a higher incentive to be legalised because they can count on something meaningful as opposed to just the administrative process (IGF, 2017; World Bank, 2024). In the case of Zambia, improving legal channels in regulated mineral sales and oversight can also be a move towards making formalization gain concrete governance and livelihood results beyond licensing reforms. As evident from Table 4 above, successful legalisation in ASM requires a series of transformations in legal systems, institutional capacity-building, services delivery, and market incentives as opposed to legal transformation in a vacuum (UNECA, 2018; IGF, 2017).

Table 4: Policy Lessons Emerging from Comparative Analysis

Policy dimension	Regional evidence	Implication for Zambia
Licensing design	Simplified and decentralised systems increase compliance (IGF, 2017; UNECA, 2018)	Streamline Artisanal Mining Rights and decentralise licensing
Institutional structure	District-level institutions improve enforcement and service delivery (World Bank, 2024)	Strengthen district mining offices
Service delivery	Extension-style technical support enhances sustainability (UNECA, 2018)	Integrate the ASM extension and training services
Governance approach	Consistent formalization reduces conflict and displacement (Katz-Lavigne, 2024)	Avoid oscillation between bans and licensing
Market integration	Transparent markets encourage legal participation (IGF, 2017; World Bank, 2024)	Establish regulated mineral buying points

6. Discussion

6.1 Interpretation of Cross-Country Patterns

The findings show a shift in artisanal small-scale mining policies in artisanal small-scale mining in Sub-Saharan Africa can be categorised as a transition from a possibly old to a new intention. Even if most states in Sub-Saharan Africa have replicated the tools of formalization in their legal systems (Table 1), criminalisation emerges as a persistent state mechanism in the context of geographically intermittent crackdowns on artisanal small-scale miners as a means to

regulate the sector. This has been observed in a combination of crackdowns on artisanal miners at various periods in Sub-Saharan Africa (Hilson, 2016; Katz-Lavigne, 2024). As a result, informality tends to be prevalent in states that categorise artisanal small-scale miners within their legal framework.

The evidence also indicates that formalization outcomes are less dependent on the existence of laws and more on state capacity for formalization and administrative facilitation. A state of high licensing complexity, centralised decision-making systems, and inefficient delivery of services (Table 2) indicates less advancement towards formalising artisanal miners within legal structures (IGF, 2017; UNECA, 2018). Yet regimes that integrate miner registration within decentralised decision-making systems display more uniform signs of compliance (World Bank, 2024), albeit contingent on state capacity (World Bank, 2024). These observations point towards informality being contingent upon state design effects with a high cost of compliance beyond miners' administrative and financial capabilities (Hilson, 2016; Katz-Lavigne, 2024).

6.2 Why Formalization Stalls: Linking Barriers to Mechanisms

The constraints enumerated in Table 3 indicate that there are several mechanisms that are consistently driving the failure of reform. Barriers in licensing costs and complexity reduce compliance by increasing transaction costs and the time required for legalisation, particularly in environments where small-scale miners lack capital and exhibit high livelihood vulnerability (IGF, 2017; Hilson, 2016). Barriers in land access, particularly where land claims overlap with large-scale concessions, result in structural exclusion that makes illegal mining an optimal choice over limited legal alternatives (UNECA, 2018; Kaczmarska et al., 2025). Lack of institutional capacity constrains inspections, training, and environmental protection, and as such, legalisation remains an empty formality in an environment that doesn't aid in incorporating more secure approaches (IGF, 2017; World Bank, 2024). Market constraints further discourage compliance because legal markets offer less than optimal advantages over illegal markets (UNECA, 2018). Lastly, volatility between formalization and repression diminishes confidence, augments displacement, and conveys an image that illegality goes unseen, hence lessening compliance (Katz-Lavigne, 2024).

6.3 Implication for Zambia: Smoothing the Policy Practice Gap

Zambia's experience fits the sub-Saharan narrative of nascent formalization hindered by red tape, inadequate decentralisation, and inadequate support services (Kaczmarska et al., 2025; IGF, 2017). The presence of Artisanal Mining Rights and citizen-centric licensing provisions is a strong signal of commitment, but cross-national experience is that legalisation in itself is not an effective informality remedy without access points, enforcement in tandem with compliance avenues, and services making legal participation feasible (IGF, 2017; UNECA, 2018). By this measure, Zambia's main reform

challenge is institutional, rather than simply legal, in nature, enhancing sub-national state capacity, lowering licensing barriers, and increasing support services like those in environmental management and occupational health and safety (World Bank, 2024; UNECA, 2018).

6.4 Policy Implications for Designing a Reform in Zambia

In this regard, as shown in Table 4, reform credibility can be maximised through a comprehensive approach to compliance. Firstly, a focus must be placed on license simplicity, along with an emphasis on countrywide, cost-effective, and time-efficient processing, as continued links have been found between time and cost, and low compliance (IGF, 2017; UNECA, 2018). Secondly, district-level mining services, and comprehensive inspection, are at the core of encouraging compliance as a safety issue, and not merely a matter of legal compliance (World Bank, 2024). In terms of these working methods, a predictable system must be exercised, and while enforcement has a place, it has more impact when made more meaningful through a system of compliance that provides progressive, rules-governed, and credible alternatives that address informality structurally (Katz-Lavigne, 2024). Lastly, a strategic emphasis must be made towards integrating markets, as buying points, price, and monitoring specifications have a profound effect, through which sellers become less dependent on illegal suppliers due to increased economic returns from legalisation agendas and policies (IGF, 2017; World Bank, 2024). This policy strategy aligns not only across countrywide frameworks but also aligns with continental agendas that seek a development strategy, as opposed to merely a security focus, for artisanal small miners across Africa, as highlighted in the African Union's 2009 declaration

6.5 Participation in the Debate over Formalization by Criminalisation

Results are consistent with a continuum perspective on ASM governance in which both criminalisation and formalization can coexist and interact in a complex fashion rather than constituting two irreconcilable approaches. In some instances, the degree of formalization seems to be introduced in an enforcement-dominant context that leads to the development of a hybrid regulatory regime with the potential of expanding mistrust and informality (Hilson, 2016; Katz-Lavigne, 2024). This further emphasises the need for progress in ASM governance beyond the definition of new rights categories and the need to re-equilibrate the mode of governance from control-oriented enforcement towards regulative enablement capable of addressing ASM both as a living resource system and a governance problem (IGF, 2017; UNECA, 2018).

6.6 Study Limitations and Future Research

As the study relies on secondary literature, the indirect approach to the topic could reflect undertows in the tailoring of the intervention to the local setting, and the experiences of miners themselves, although the quality of the recordkeeping tends to be inconsistent between different countries (UNECA, 2018; World Bank, 2024). Further studies could therefore be done among the artisanal miners, and among the key stakeholders, regarding the workings that have been described

above, and the interplay of licensing, land, and buying as implemented or envisioned for the different mining areas in the Zambian scene (IGF, 2017; World Bank, 2024).

7. Conclusion and Recommendations

7.1 Conclusion

This study examined policy shifts from criminalisation to formalization in artisanal and small-scale mining (ASM) across selected Sub-Saharan African countries and drew lessons for Zambia. The comparative results show that formalization is now widely adopted in policy statements and legal frameworks, consistent with continental ambitions to integrate ASM into inclusive development pathways (African Union, 2009). However, in many contexts, formalization has not displaced criminalization; instead, hybrid regimes persist in which licensing reforms coexist with periodic crackdowns, producing policy incoherence and weak incentives for sustained compliance (Katz-Lavigne, 2024).

Across cases, the decisive difference between limited and more durable formalization outcomes is not the existence of ASM laws alone, but implementation capacity and accessibility. Countries that reduce licensing burdens, decentralise services, and embed support (training, oversight, environmental and safety assistance) make legal participation more feasible and improve compliance. These findings align with established guidance that ASM management requires a step-by-step, whole-of-government strategy linking regulation, institutions, services, markets, and monitoring (IGF, 2017; AMDC/UNECA, 2017).

For Zambia, the evidence confirms a persistent policy–practice divide: formalization aspirations are visible, including the increased granting of artisanal mining rights and ongoing legal and institutional reforms, but barriers such as procedural complexity, limited decentralised presence, and weak support systems sustain informality (Kaczmarek et al., 2025; Ministry of Mines and Minerals Development, 2025). The conclusion is that Zambia’s success will depend on moving from “paper formalization” to practical, district-level formalization that lowers entry costs, provides services, and links legality to real market benefits, consistent with international good practice and recent global frameworks for sustainable and inclusive ASM.

7.2 Recommendations

- 1) Develop a National ASM Formalization plan aligned with the Africa Mining Vision and Implementation Guidelines. Following this implementation guideline recommendation for other African countries, it has been recommended that Zambia develop a formalised strategy on ASM reform within a specific timeline that will integrate ASM into its development plans (African Union, 2009), based on step-by-step management practices advocated by the IGF (2017).
- 2) Licensing needs to be redesigned and made more accessible by introducing fewer procedural requirements, clearer service delivery standards (terms of doing business, the cost of the services), and an enhanced number of licensing points at the provincial and district levels. This specifically addresses the policy and practice

gaps, which are evident in the governance of the ASM sector in Zambia, and is informed by best practice that for the formalization of the sector to be scaled, licensing should be attainable (Kaczmarek et al., 2025; IGF, 2017).

- 3) Offering such regular services as registration assistance, basic inspection, safety training, environmental advice, dispute settlement referral, and market information at a district mining office level can be extremely helpful for Zambia. This is because evidence generated by the region indicates that service delivery is one of the critical determinants that could result in a lack of compliance despite laws formulated for mining (AMDC/UNECA, 2017; IGF, 2017).
- 4) Establish specific ASM areas supported by geological mapping and access regulations. To mitigate land access exclusion and conflict, Zambia can enhance the use of specific ASM areas identified through geological surveys. Recent developments, including legislative reforms that enhance geological functions, are likely to help this recommendation, as they enhance geological mapping and targeting of appropriate ASM areas (Government of Zambia, 2025).
- 5) On another note, Zambia must look at the frameworks of formalization that have been proposed for the country and make use of the blueprint approaches that involve a sequence of activities (such as legal entry, assistance, markets, and regulation), taking into account the constraints that relate to feasibility (Hilson, 2020; Development Minerals, Zambia blueprint
- 6) Link formalization to markets through regulated buying points and progressive traceability. Legalisation should have economic value. There should be strengthened regulation of mineral buying, traceability introduced progressively where relevant (especially in high-risk value chains), and strengthened oversight by buyers. It has been observed that there is increased shaping of ASM by requirements for traceability and legality, even from major mineral-producing countries in Africa (World Bank, 2024; Reuters, 23 Dec 2025).
- 7) Switch from oscillating enforcement actions predictable action that is commensurate with compliance options. Actions that are consistent, rule-based, and accompanied by enabling compliance (warnings, regularisation windows, targeted enforcement against criminal groups, not against livelihoods themselves) would address problems in the harmful impacts of criminalisation and programme incomprehensiveness that drives informality (Katz-Lavigne, 2024; IGF, 2017).
- 8) Zambia should monitor the use of licenses, compliance rates, accident cases, environmental incidents, cases of disputes, and market participation through a simple dashboard. This is in line with the international best practice that ASM programs must be monitored for improvement (IGF, 2017; World Bank, 2024).
- 9) Future research should focus on gathering primary data from miners, chiefs/local government, regulating agencies, and buyers to help inform whether and to what degree specific obstacles are prevalent by commodity and region, and pilot-tested approaches (dec licences, ASM zones, and buyer centres) before scaling up. This is to address the identified policy-practice disconnect specific to Zambia and improve it.

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